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LANGUAGES OF CENTRAL MALUKU, INDONESIA

by

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To the memory of my father
who taught me the importance
of listening and learning.

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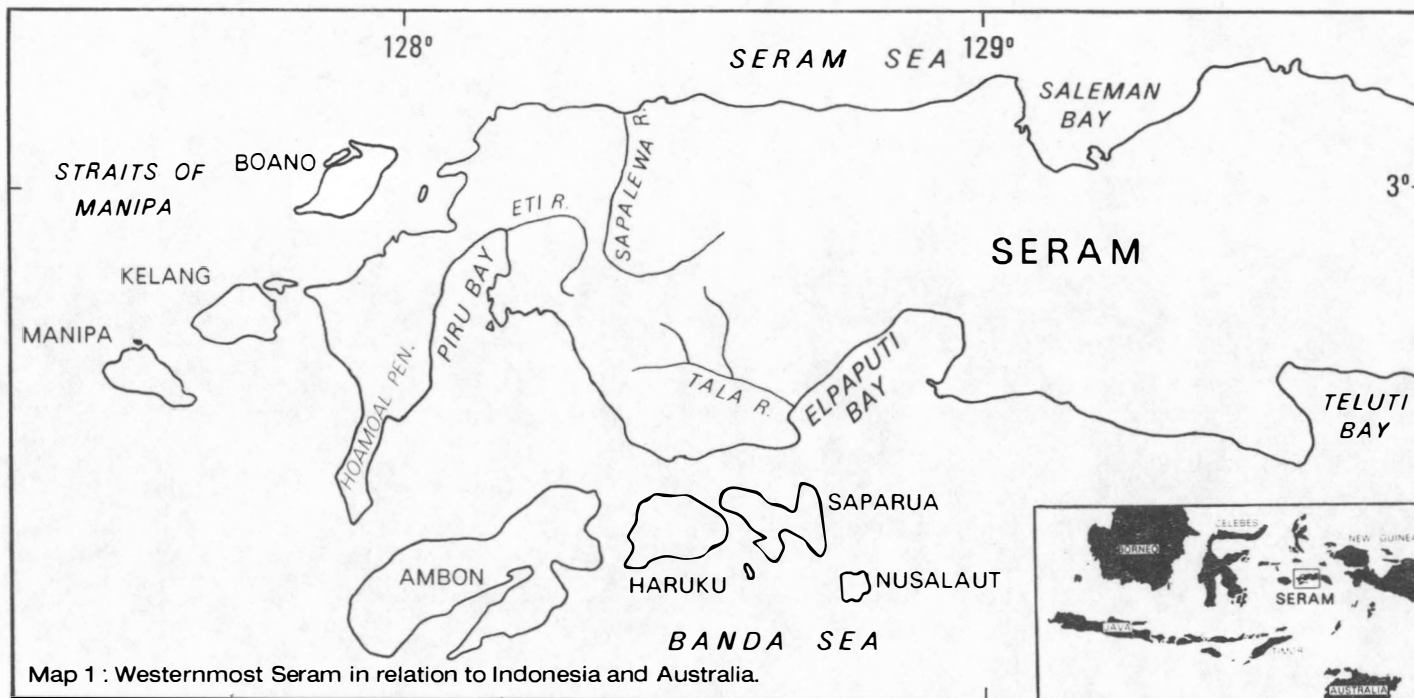
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CHAPTER I

INTRODUCTION

1. Proto-Austronesian studies

As early as 1708, Hadrian Reland observed the linguistic similarities of many languages of the Indonesian archipelago and beyond. By the year 1784, two years before Sir William Jones brought to light the concept of a parent Indo-European language, Lorenzo Hervás y Panduro correctly identified and definitely established the Malayo-Polynesian family of languages. This family, today referred to as Austronesian, became an object of intense interest to European scholars. It was at once the most far-flung language family and the most numerous. Member languages are spoken from Madagascar in the west to the Easter Island in the east, that is from the eastern edge of Africa to the western edge of America. With the exception of parts of New Guinea and some nearby islands, all the islands between these two fringe areas are peopled by Austronesian speakers. Most scholars agree that the total number of Austronesian languages ranges between three and five hundred.¹ A few of these languages such as Javanese with its fifty million speakers are large, culturally dominant languages with a thousand year old literary tradition, a linguistic chronology with a depth nearly that of English; many others such as Kaitetu with its three hundred speakers are small, minority languages and enclaves which have never known writing.

It is no wonder, then, that well-known European scholars were attracted to the study of this family. Between 1836 and 1839 there appeared Wilhelm von Humboldt's lengthy posthumous treatise on the ancient language of Javanese manuscripts, *Über die Kawi-Sprache auf der Insel Java*. This included an early attempt at sketching the history of the Austronesian languages. Even Franz Bopp, the renowned Indo-Europeanist, wrote extensively about Austronesian languages; his 1840 essay tried to show the hypothetical connection between Indo-European and Austronesian languages. Through the nineteenth century, there was a steady stream of work done on Austronesian. Considerable attention was paid to individual members of the family. The middle of the nineteenth century witnessed the publication of extensive grammars and dictionaries of Malay, Javanese, Bisayan, Dayak, Batak, Makassar, Seram, Fijian, Samoan, Tahitian and Maori.² Drawing upon this considerable base, several linguists were able to undertake scientific reconstruction of the ancestral language of these diverse languages.

H.N. van der Tuuk stands out as the first to apply systematically the principles of Indo-European comparative linguistics to Austronesian languages. Through his familiarity with the contemporary work of Bopp and Grimm and others he "laid the foundations for a truly scholarly comparative study of the Indonesian languages" (Teeuw 1971:17). His extensive work on Batak, Batavian

Malay, Malagasy, Old Javanese and Balinese as well as his theoretical and polemical pamphlets provided the starting point for the next generation of Austronesian historical linguists.³

Then followed a group of syntheses. Brandes (1884) collected van der Tuuk's detailed and accurate discussions of Austronesian sound correspondences, labelling them the van der Tuuk sound laws. Kern, working with his own data (Kern 1886) and the mass of data collected by others, wrote an essay marshalling linguistic evidence for the Austronesian homeland (1889). In the Pacific, Codrington had published his comparative work on the Melanesian languages (1885). Concentrating mostly on the languages of Indonesia, the Philippines and Formosa, Brandstetter (1893+) undertook the reconstruction of Proto-Austronesian phonology, grammar and vocabulary.

By the turn of the century, Austronesian was the best described language family after Finno-Ugric and Indo-European itself. The theoretical advances and consolidations in historical linguistics of the nineteenth century were not limited to Indo-European studies.

Drawing on this reservoir of data and theory as well as his own extensive fieldwork in New Guinea, Otto Dempwolff began in the 1920's his penetrating linguistic studies of scores of Austronesian languages. This program of work culminated in 1938 in the completion of the publication of his monumental three volume study of Proto-Austronesian, *Vergleichende Lautlehre des Austronesischen Wortschatzes*. In it he reconstructed the proto-sounds and certain canonical shapes and a lexicon containing 2215 entries. He further explained his methodology and demonstrated the procedures by using a few sample languages; the work was thus a landmark methodological *Musterbeispiel* in the comparison of non-Western language families, as well as a distilled summation of exact findings. While recognising Polynesian languages as members of a larger group called *Ur-Melanesisch* (now referred to as Oceanic), he did not propose any subgrouping nor did he consider the proto-syntax of Austronesian languages.⁴

In the late 1940's, I. Dyen turned his attention to Proto-Austronesian and began suggesting revisions of Dempwolff's reconstructions. At first this was based on a closer and, one might say, a more rigorous analysis of Dempwolff's material. Later, the gradually expanding corpus of data for the languages of Tawian (Formosa) proved extremely important. The most far-reaching changes resulting from Dyen's work involve the recognition of a so-called 'laryngeal' series of sounds and an expanded lateral series. Dyen also turned to the problem of subgrouping. Because of the vast number of languages in the family, he felt that some initial yet consistent classification was necessary. For this reason, he applied lexicostatistical methods to the Austronesian family. He published his controversial findings in 1965.⁵

In his best known work, *Malgache et Maanyan*, Dahl also dealt with a subgrouping problem, demonstrating the close relationship of Madagascar's Austronesian language with a language of southwest Borneo. Quite recently (1976) he has submitted further evidence for the inadequacy of lexicostatistics.⁶ However he, like Dyen, has suggested some revision of Dempwolff's reconstructed sound system. Furthermore he has done some work (1973) on subgrouping along more traditional lines.

In addition to these revisions in our knowledge of the proto-language, certain smaller groups within the family have been subjected to more intensive study. In the Pacific, scholars have been able to reconstruct Proto-Oceanic in considerable detail.⁷ This group is said to include all Austronesian languages east of West New Guinea and Palau. Some scholars, notably Pawley and Clark,

have been able to work out not only proto-phonology but proto-morphology and syntax as well. A rather lengthy lexicon of Proto-Oceanic is developing.⁸

In this fashion, the past thirty years have seen considerable revision of the phonology of Proto-Austronesian, extensively detailed reconstruction of one of its apparent branches and, of course, a rapid expansion in the amount of material attesting many Austronesian languages (particularly those of Taiwan and the Pacific). These three inter-related developments can only force us to a reassessment of the generally assumed subgroups of Austronesian. As Dyen (1971) has recently reiterated what others have said, there is a close connection between discussing the phonetic nature of proto-sounds, evaluating morphemic reconstruction and subgrouping branches of a language family. It is by observation of the distribution of certain cognate sets among the most independent members of the family that many aspects of reconstruction can proceed. If the independence of one language or group of languages from another language or group of languages can not be ascertained, then, to some extent, the process of historical reconstruction is stymied or even misled.⁹ The increasing refinement of the reconstruction of Proto-Austronesian now demands a close scrutiny of its subgroups so as to proceed with greater confidence and effect.

2. History of Proto-Central Maluku studies

The first Europeans to travel in Maluku remarked on the extraordinary diversity of the languages there. Beginning with Magellan's crew, outsiders were puzzled by the large number of languages. It took only a short time before wordlists began to appear. By the mid-nineteenth century a number of such lists had appeared (cf. van Doren (1859), van der Crab (1862), Ludeking (1868), Wallace (1869), van Eijbergen (1865) et al.). Valuable in its scope and insight was the work of van Ekris (1864-5). He recorded comparative information regarding about a dozen dialects and languages of the south coast of Seram and adjacent islands.

Baron van Hoëvell (1877) produced a comparative grammar and dictionary of five languages of Ambon and Uliase. Not only does he provide the first attempt to subgroup these languages and several other languages of Seram, he also specifically notes "the relationship between the Ambonese indigenous languages and some of the idioms of the South-Sea islanders..., (and) the language of the Aru people". His proposed classification of the languages of Seram and Uliase is quite comprehensive, though he failed to work out a detailed justification for these groups. He mentions differences with respect to e and o, k and t, r and l and several other bits of information, but no solid contribution to the actual details of correspondence appears here.

Well before the twentieth century, then, the languages of Central Maluku were in part known and already roughly described. Indeed, Hendriks's work on Buru (1897) was a source for Brandstetter as well as Dempwolff. Writing from the perspective of southwest Maluku and the Lesser Sundas, Jonker, in addition to his numerous dictionaries and grammars, published theoretical essays regarding subgrouping questions and problems of morphological reconstruction in Maluku (1906, 1914).

As a concrete result of his fieldwork in Seram (1910-1912), E. Stresemann wrote a grammar and dictionary of a nearly extinct language of central Seram, Paulohi (1918). By using many earlier sources, particularly van Hoëvell and van Ekris, as well as his own data, Stresemann included considerable speculation about language classification in this early book.

After he had consulted and worked with Jonker and Dempwolff in Europe, in 1927 Stresemann attempted a classification by subgrouping all the languages of Central Maluku, which he numbered at about fifty. This work, *Die Lauterscheinungen in den Ambonischen Sprachen*, is a bold pioneering attempt to subgroup an entire branch of the Austronesian family; in fact, it is one of the earliest systematic attempts at subgrouping in the family. It remains the chief source of information about these languages and their relationships to each other. Esser (1938) drew on it when he sketched a classification of the Maluku languages and suggested some unsubstantiated revisions in the family tree of Central Maluku.¹⁰

Since Stresemann's 1927 study, a few more wordlists and dictionaries of Central Maluku have become available: Sierevelt (1922),¹¹ Niggemeyer (1952), Tauern (1928-31) and Devin (1978). Moreover, beginning about ten years ago, international attention began to focus on precisely these languages. The Soviet linguist, Sirk, and the anthropologist, Chlenov, published a brief paper regarding the merger of Proto-Austronesian *b and *p. This article provided evidence for a merger hitherto thought to have occurred only in languages much further to the east in New Guinea (cf. Grace (1959); Dyen (1965)). Furthermore, based on Chlenov's lexicostatistical calculations (1969), a preliminary reassessment of Stresemann's subgrouping was included. In a still more recent book (1976), Chlenov has provided a whole new classification of languages in Central and Southwest Maluku.

In 1974 Blust published a startling suggestion that perhaps the languages of Central Maluku (in particular Buru) should be reassigned to a branch of Austronesian which would indicate its closer relationship to Oceanic languages. This branch he tentatively labelled 'Eastern Austronesian'. In 1978 he touched upon this question again when he demonstrated the validity of the South Halmahera-New Guinea group. In his recent paper on vocatives (1979), he has indicated the membership of Maluku languages in a group he now calls 'Central Malayo-Polynesian'. The inter-relationship of certain Central Maluku languages, namely Buru and Taliabo, is the direct concern of still another paper (1981). In that paper he makes explicit some necessary revisions in Stresemann's proposed inventory of sounds for Proto-Central Maluku.

Dyen's 1965 lexicostatistical classification of Austronesian languages included an allocation of the five languages which van Hoëvell (1877) described. In 1978 Dyen presented a paper in defence of the membership of two Maluku languages, Kei and Kamarian, in the first order subgroup of Proto-Austronesian which he calls Hesperonesian. More recently (1978b) he analysed those languages which van Ekris described (1864-5). He provides a new classification of them and points out important phenomena in the Proto-Central Maluku sound inventory which have implications for the highest levels of Proto-Austronesian sub-branching.

3. Purpose, outline and findings of this study

Beginning with the pioneering work of van Ekris, van Hoëvell and Hendriks, more than a century of solid comparative analysis of the languages of Central Maluku has become available to us. Stresemann's 1927 book is both chronologically and theoretically central to this tradition of linguistic research.¹² The recent renaissance of international interest marked by the numerous consecutive publications of Chlenov and Sirk, Blust and Dyen points to the critical importance of Central Maluku for a refinement of our understanding of Proto-Austronesian and its descendants. The implication to be drawn from these

recent works is that detailed analysis of the sound system and exact classification of Proto-Central Maluku form an essential key towards determining the branching of Proto-Austronesian at its highest levels as well as towards establishing the inventory of Proto-Austronesian sounds.

In the following chapters, then, a meticulous revision of the classification of the descendants of Proto-Central Maluku is attempted. The chief basis for this revised classification is phonological innovation. Dahl (1973:32) has called attention to the need for phonetic realism in the characterisation of PAN sounds. Recently Hamp (to appear) took up the problem of the points of articulation of PAN spirants. These efforts to treat the proto-language as a real language, not as a collection of abstract symbols and labels, are of the utmost importance in linguistic reconstruction. However, for the sake of uniformity within Austronesian studies, it has been necessary to follow in most details the orthography suggested by Dyen and later modified by him and other authors. The only exceptions here to that orthography are the use of *ə to represent the central vowel of PAN (Dyen's *e) and the elimination of subscripts in citing certain dentals and 'laryngeals'.

In addition to this introduction this study contains six chapters of varying length. Their contents are outlined here.

In Chapter II the family trees proposed by other authors are presented in some detail. Having considered the position of the languages of Maluku within the AN family, our attention turns to earlier classifications of Maluku languages, in particular those languages identified by Stresemann as members of a subgroup which he called 'Sub-Ambon'.

Because of the present rudimentary stages of the reconstruction of PAN syntax, it would be rash to attempt a thorough-going analysis of Proto-Central Maluku syntax. Nonetheless certain syntactic phenomena are so widespread in Central Maluku that they suggest the outlines of some aspects of the syntax of the proto-language. Moreover, these syntactic structures affect our interpretation of the phonological development of Proto-Central Maluku. In Chapter III, then, three syntactic topics are treated in condensed form: verbal conjugation, genitive systems and independent and dependent verbals.

The following three chapters discuss in detail two major subgroups of Proto-East Central Maluku. They are Three Rivers and Proto-Piru Bay. These two subgroups are branches of the proto-language of western and central Seram, here called Nunusaku. Three Rivers and Proto-Piru Bay have numerous descendants; they include all of the languages which Stresemann considered 'Sub-Ambon' languages and several others. The evidence for these two subgroups as well as the classification of languages within them is presented under various topics, chiefly phonological.

A few concluding remarks regarding inherited innovations and change through diffusion and contact appear in the final chapter.

Based on the one hundred year old tradition of Central Maluku comparative linguistics and recent provocative publications by leading Austronesianists as well as on my own data recently collected in two years of fieldwork,¹³ a serious reassessment of Stresemann (1927) is essayed. The results of this reassessment are numerous. Not only is Central Maluku a subgroup which extends over a wider area than Stresemann's 'Ambonese' language group but it includes languages which he never classified (Laha and Naka'ela) or misclassified (Seit). While he was unable to determine the classification of Boano, Kelang and Manipa, it is now possible to establish their close relationship to West Piru Bay languages.

Languages which Stresemann treated as 'isolated' descendants of 'Sub-Ambon' (including Kamarian, Paulohi, Hila, Haruku, Sepa and Wolu) have been incorporated in a much more detailed and explicit family tree.

This has been accomplished by the analysis of a large corpus of data collected in more than eighty villages in these islands. Furthermore, instead of adopting Stresemann's typological classification of languages based on a static view of sound correspondences, the analysis offered here is based on the realisation of the historical, that is sequential, development of languages through phonological and morphological innovations.

This theoretical perspective has resulted in the reconstruction of a sound inventory of Proto-Central Maluku which differs in several respects from Stresemann's 'Ur-Ambon' sound system. Contrary to his assumption of early mergers and losses, numerous PAN sounds were retained until a fairly recent stage, for example *d, *z, *j, *q, *R, *aw and, perhaps, *ay. Similarly the merger of *b and *p in some Central Maluku languages is demonstrably recent and certainly independent of the well-known Oceanic merger.

While Stresemann reconstructed verbal conjugations in 'Ur-Ambon', he did not make explicit the importance of those conjugations as well as the role of genitive paradigms in establishing sound correspondences. In contrast, the current study emphasises the significance of these two morphosyntactic phenomena in sorting out sound changes and assessing intra-group relationships. For the first time, the function of dependent verb marking has been pointed out, thereby partially resolving some of the issues raised by Jonker (1906).

In the course of this study two unexpected retentions came to light. First, apparently Proto-Central Maluku maintained PAN *ʈ as a distinct sound in initial position. This fact removes the strongest argument in Dahl's (1973) case for a non-Formosan subgroup. Second, various word-initial irregularities in Central Maluku languages can be explained if we assume that these words retained reflexes of the PAN articles *si and *u. Hence, close attention to phonological details provides crucial evidence for syntactic reconstructions.

Despite much diffusion and parallel change, it is possible to reconstruct much of the earlier state of affairs in the Central Maluku languages by careful study of all details. A refinement of our understanding of these languages and of their relationships to each other has important implications for Proto-Austronesian, one of the few proto-languages well-studied by comparative linguists.

CHAPTER II

FAMILY TREE: PAN AND PCM

In the following pages the positions of Haudricourt, Dyen, Dahl and Blust with regard to the relationship of the languages of Central Maluku to PAN are presented. Then, the various attempts at genetic subgrouping of these languages are outlined. They include the impressionistic categorisation of van Hoëvell as well as the more rigorous analyses proposed by Stresemann, Dyen, Blust and Chlenov. A tentative genetic classification of the descendant languages of Proto-Central Maluku is proposed here. Some details of that classification are justified by the evidence presented in the following chapters.

Each proposed classification is summarised and presented here in a tree diagram. It is with some reluctance that the findings of lexicostatistics are presented in dendrograms. Dyen (1965a:15) allowed that "...the interpretation of the implications of the lexicostatistical classification need not...adhere strictly to its letter but should rather seek the best fit with plausibility wherever this is not immediately present." It is not the intention of these dendrographic summaries to distort or misrepresent the results reached by lexicostatistics. The purpose is merely to facilitate comparisons among the various proposals.

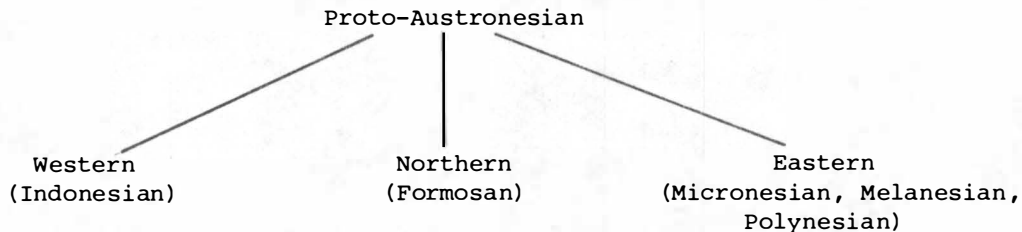
1. The position of the Maluku languages within AN

The earliest Austronesian scholars did not attempt rigorous subgrouping of the numerous descendants of PAN. For a long time, geographic terms, Indonesian, Melanesian, Micronesian, Polynesian, were used to describe PAN language groups. Dempwolff suggested that all the AN languages of the Pacific belonged to a single subgroup. He did not discuss precisely how these languages were related to each other or to the 'Indonesian' group to the west.

One of the chief problems in determining these inter-relationships is the large number of languages involved. Nonetheless in recent years scholars have begun to sift through the data in order to determine the major branches of Austronesian. The results of these enquiries are not harmonious.

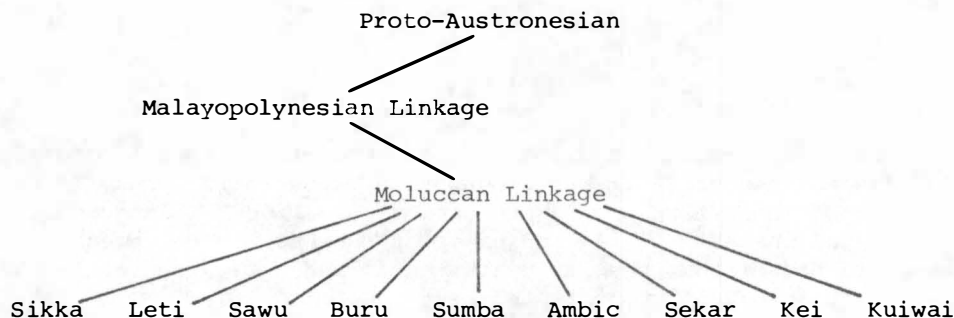
As early as 1962, Haudricourt implied a tripartite split in PAN: Indonesian, Formosan and the others. This position was later reiterated (1965). See Figure 1. The three subgroups were called Western, Northern and Eastern. Apparently the languages of Maluku were considered part of the Western branch. The basis for Haudricourt's subgrouping conclusions are unclear; in neither article are they stated.

Figure 1: Primary subgroups of Proto-Austronesian. (Haudricourt 1965)



In the same year as the publication of Haudricourt's paper on Austronesian comparative philology, Dyen's lexicostatistical analysis of data from 245 Austronesian languages appeared. Based on his interpretation of these data, he concluded that the AN family split into forty subgroups, most of which are small language groups in the Melanesian area. One of the forty subgroups not in Melanesia was the Malayopolynesian Linkage which included among its seven subgroups the Moluccan Linkage. Within the Moluccan Linkage were the languages of Buru and Ambon in Central Maluku as well as other languages of East Indonesia: Sumba, Sikka, Leti, Sawu, Sekar, Kei, and Kuiwai. See Figure 2. The implication is that Buru and Ambic are no more closely related to each other than they are to other members of the Moluccan linkage. Dyen presented the percentages of cognation which he had reached but the data upon which these conclusions are based have never been available to interested readers.

Figure 2: Primary subgroups of Proto-Austronesian. (Dyen 1965a)



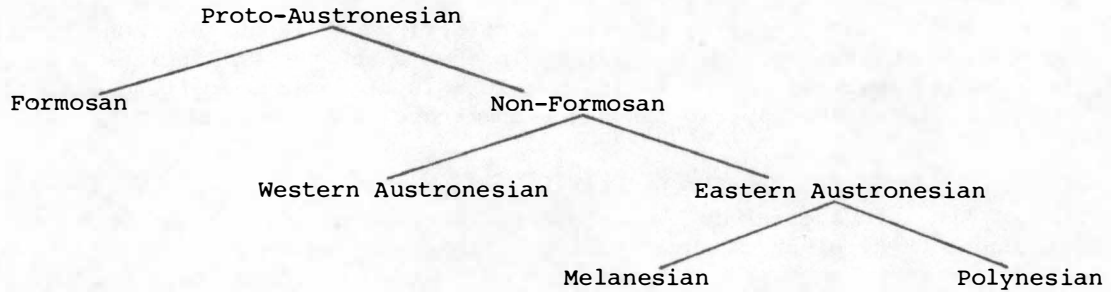
More recently Dyen (1978a) appears to have modified his analysis of the data. He proposed that the Austronesian languages divided into Oceanic and non-Oceanic. Among the non-Oceanic languages are the languages of Maluku, including Kei and Kamarian. So, although Dyen suggests a consolidation of many of the forty primary subgroups originally proposed, the position of the languages of Maluku within Malayopolynesian remains the same.

Dahl (1973) proposed that the first offshoot from PAN was the Formosan language subgroup. The non-Formosan languages subsequently split into Eastern Austronesian which included Melanesian and Polynesian languages and Western Austronesian apparently synonymous with the older 'Indonesian'. Thus, Dahl proposed two bipartite splits of Proto-Austronesian. See Figure 3.

We infer that Western Austronesian includes the languages of Maluku. In fact, the single phonetic innovation attributed by Dahl to Western Austronesian, *t'>*s is displayed in the languages of Maluku as well. There is no evidence

that the Maluku languages shared the grammatical innovations which Dahl noted (1973:128). In either case, Blust (1976:229-230) has argued that evidence from languages outside of Dahl's Western Austronesian subgroup makes Dahl's sub-grouping proposals questionable.

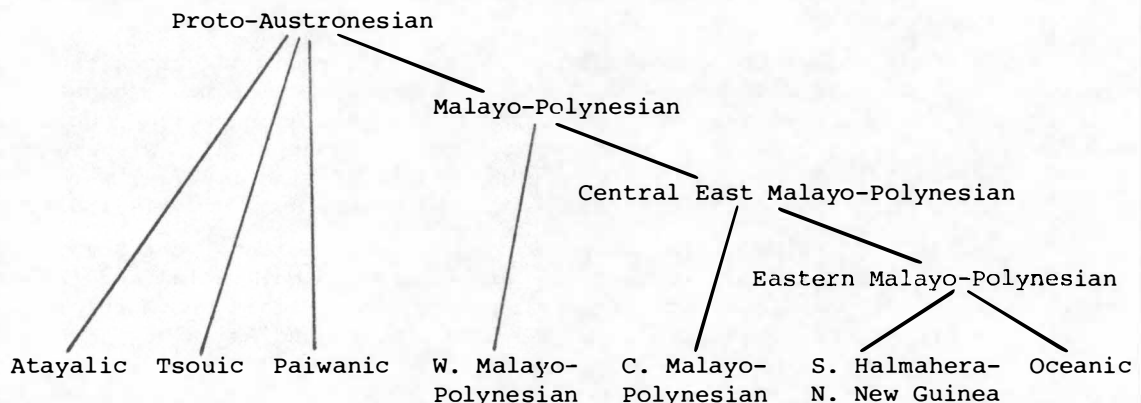
Figure 3: Primary subgroups of Proto-Austronesian. (Dahl 1973)



Blust (1977 and elsewhere) has proposed a radically different subgrouping of AN languages. He argues that the Formosan languages form three separate primary subgroups of PAN: Atayalic, Tsouic and Paiwanic. The fourth primary subgroup is Malayo-Polynesian, which includes all other AN languages. Malayo-Polynesian has three branches: Western Malayo-Polynesian, which includes the AN languages of the Philippines, Indonesia, Malagasy, Indo-China, Chamorro and Palauan, Central Malayo-Polynesian, which includes the languages of the Lesser Sundas and South and Central Maluku, and Eastern Malayo-Polynesian, which includes the languages of south Halmahera and the Pacific. In an early paper (1977) Blust noted that "CMP and EMP may share a common node below M-P"; in 1979 he identified that common ancestor as Central Eastern Malayo-Polynesian. See Figure 4.

Among the evidence supporting the split of Malayo-Polynesian from PAN are the innovative shift of *-mu '2pl' to *-mu '2sg', the loss of preconsonantal and final *S and the merger of resultant final *ə to *a (as in PAN *CumeS>PMP *tuma *clothes louse*). (Refer to Blust 1982.) The Formosan languages do not display these innovations.

Figure 4: Primary subgroups of Proto-Austronesian. (Blust 1979)



The chief evidence supporting the existence of Proto-Central Malayo-Polynesian is the innovative merger of PAN *mb and *mp as PCMP *mb and of PAN *n(dd) and *n(tt) as PCMP *nd. (See Blust 1981.) Blust (1978a) has presented persuasive evidence for the validity of Proto-Eastern Malayo-Polynesian. To date, however, with the exception of the observation of some shared lexical items (Blust 1974), little evidence has been presented to justify the existence of Proto-Central Eastern Malayo-Polynesian.

The positions of Dyen, Dahl and Haudricourt, while considerably different from each other in many details, agree in considering the language of Maluku more closely related to the language of western Indonesia and the Philippines than they are to the languages of the Pacific. Blust is alone in suggesting a special relationship between the Pacific languages and those of Maluku and the Lesser Sundas.

The subgrouping of even the highest branches of PAN is controversial. The position of the languages of Maluku is a question that has been taken up in recent publications both by Blust and Dyen - with quite the opposite results. It is unlikely that progress towards a resolution of this question can be achieved until more information about the numerous languages and their internal relationships has become available.

2. Earlier classifications of Central Maluku languages

In the long history of Central Maluku language studies there have been three major attempts at subgrouping. They appeared at fifty year intervals and, so, reflect the scientific milieu of each period as well as the academic discipline of the author. Van Hoëvell's 1877 remarks are largely intuitive; the arguments are presented merely in passing. His chief concern was lexicography not language classification. Stresemann was one of Europe's leading ornithologists. It is not surprising that his 1927 book should be influenced by taxonomic principles. Nonetheless the data upon which he based his conclusions are at least partially accessible to the reader in the meticulous and regimented presentation of his arguments. Chlenov's 1976 classification is based on lexicostatistical computations, tempered, as he says, by some comparative considerations. For the most part only the percentages of cognation, mathematical formulae and the final conclusions are available to the reader. Chlenov's academic background as an anthropologist certainly colours his approach to language classification.

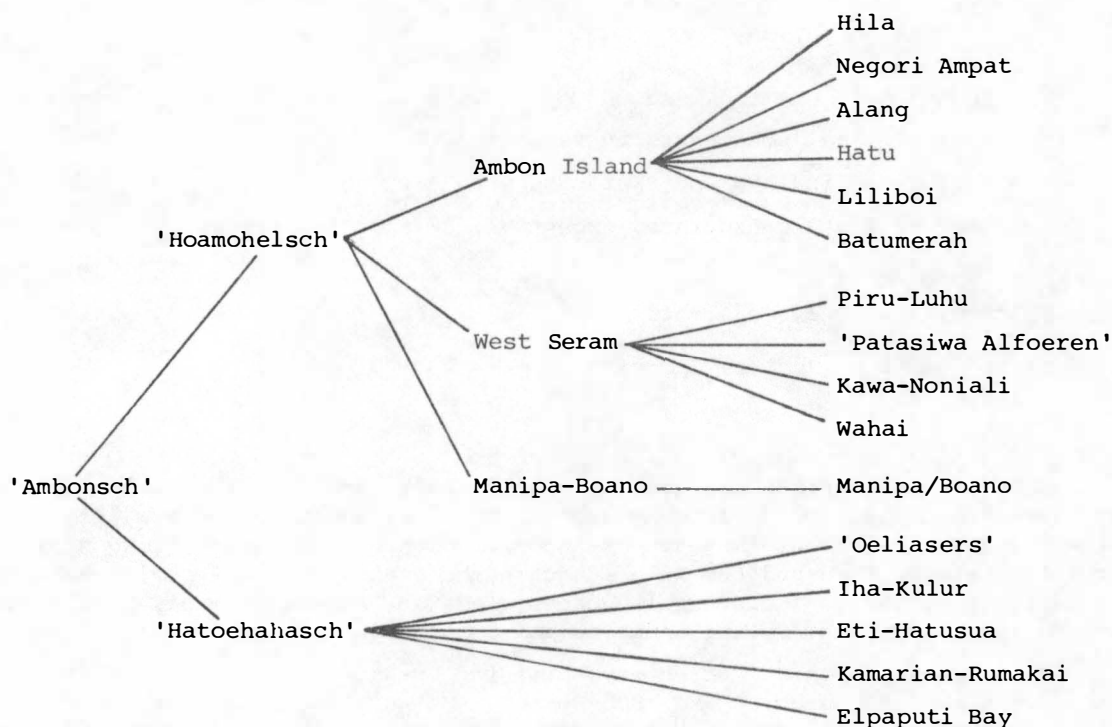
These three classifications and the arguments underlying them are presented here along with some recent comments by Blust and Dyen which suggest revisions in Stresemann's analysis.

In his grammatical sketch and wordlist of five indigenous languages of Central Maluku, 'De vijf voornaamste dialecten der Ambonsche landtaal (bahasa tanah)', van Hoëvell argued that the languages of Seram and Ambon-Uliase could be classified in two great branches: 'Hoamohelsch' and 'Hatoehahasch'. See Figure 5. These were real languages which at the time of his writing (1877:7) were already extinct, surviving only in fragments of old poetry (van Hoëvell 1882).

'Hoamohelsch' is divided into three subgroups: Ambon Island, West Seram and Manipa-Boano. On Ambon Island two major languages are spoken: 'Hila' and 'Negori Ampat'. 'Hila' is spoken in Wakal, Hitumesing, Hitulama, Mamala and Morela; the four villages of 'Negori Ampat' are Seit, Henalima, Ureng and Asilulu.

In addition to these two chief languages, Alang, Hatu, Liliboi and Batumerah are also considered 'Hoamohelsch' languages, although their relationships to 'Hila' and 'Negori Ampat' and to each other are not specified. Van Hoëvell mentions four more languages on Ambon Island, namely Wakasihi, Telehu, Liang and Kaitetu, regarding whose classification he is not certain.

Figure 5: The branches of 'Ambonsch'. (van Hoëvell 1877)



The positions of Kaitetu, Wakasihi, Liang and Tulehu on the island of Ambon are uncertain. Haya, central Seram, displays some connection with Nusalaut but the details are not specified.

Under West Seram he lists Piru-Luhu, 'Patasiwa-Alfoeren' (spoken by the mountain peoples in the upper reaches of the Eti and Sapalewa rivers), Kawa-Noniali and the fifteen languages of the Wahai district. Apparently Manipa-Boano includes only the indigenous languages spoken on those two islands.

'Hatoehahasch' has five subgroups: 1. 'Oeliassers' (Haruku, Saparua and Nusalaut); 2. Iha-Kulur; 3. the language of Eti, Tanunu, Kaibobo, Waesamu and Hatusua; 4. the language of Kamarian, Seriawan, Tihulale and Rumakai; and 5. the two languages of Elpaputi Bay. He also suggested that Haya at the entry to Teluti Bay was influenced by Nusalaut in unspecified ways.

He repeatedly notes that these languages are not sharply distinguished from each other. Nonetheless he notes three phonetic points of difference. First there are numerous distinctive sound changes; there are differences between 1. o and e; 2. r and l; 3. k and r; 4. h and zero; 5. zero and t. He does not clearly specify which languages display these sounds; however, the implication is that the first sound of each pair is considered characteristic of 'Hatoehahasch' while

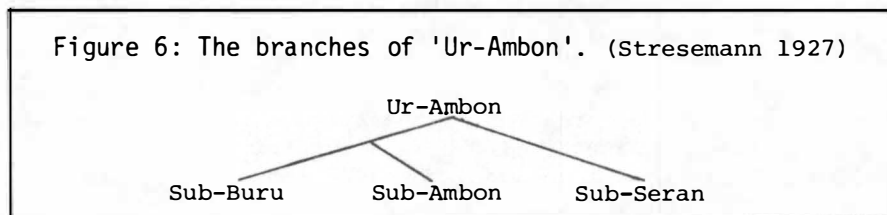
the second sound is distinctly 'Hoamohelsch'. Second, he notes unspecified dialect differences. Third, there are unspecified differences in stress, intonation and vowel length as well as vocabulary differences.

Stresemann (1927) argued that the languages of Central Maluku belonged to a single branch of PAN; he called this branch 'Ur-Ambon'. He presented a number of phonetic innovations which distinguished 'Ur-Ambon' from PAN.¹⁴ They are:

- 1a. PAN *l, *j, *r > *l
- 1b. PAN *d, *D, *z/Z > *d
- 1c. PAN *ŋ, *n > *n
- 2. PAN *S > Ø
- 3. Loss of final consonants in verbs.
- 4. Merger of final *p and *k in nouns to *ʔ.¹⁵
- 5. Loss of final consonants, except *l, *R and *t, in nouns.
- 6a. *mb, *mp > *mb
- 6b. *nd, *nD, *nZ, *nj, *nt, *ns > *nd
- 6c. *ŋk, *ŋg > *ŋg
- 7a. *aw, *ay > *a
- 7b. *uy > *u

Based on these sound changes, he specifically excluded other languages of the area. He rejected the languages of Geser ('Seran-Laut'), Bonfia, Kisar and Eli-Elat (the indigenous language of Banda). Although he noted strong similarities between Buru and the Sula language, he excluded Sula from 'Ur-Ambon' on grammatical grounds. The other languages of Seram, Ambon, Saparua, Nusalaut, Haruku, Boano, Manipa, Kelang, Ambelau and Buru belong to 'Ur-Ambon'.

Stresemann proposed a three way split in 'Ur-Ambon'. The three branches are 'Sub-Ambon', 'Sub-Buru' and 'Sub-Seran'. He suggested that a greater distance separated 'Sub-Seran' from 'Sub-Ambon' than 'Sub-Buru' from 'Sub-Ambon'. Evidently, then, the branching he proposed is as Figure 6 suggests.

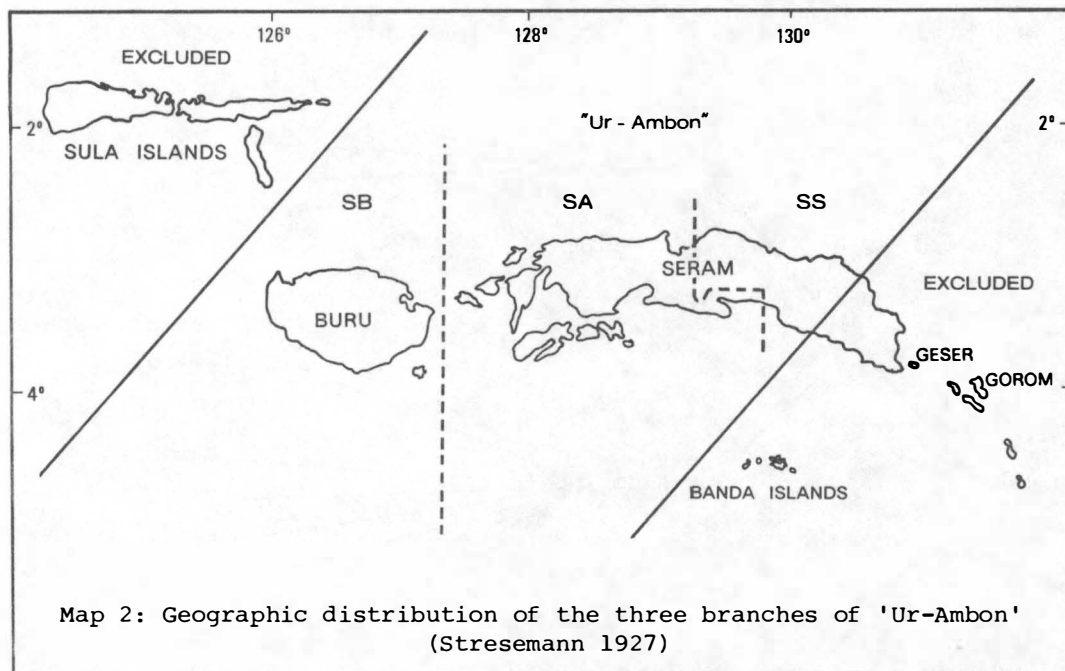


The Manipa Straits separates 'Sub-Buru' from 'Sub-Ambon'. 'Sub-Ambon' includes all the coastal and interior languages of western Seram and adjacent islands. These languages are spoken as far as Horali on the north coast and as far as Nuweletetu on the south coast. Stretching along the south coast (but not in the interior) a 'Sub-Ambon' language is spoken as far as Laimu on Teluti Bay.¹⁶ Refer to Map 2.

While he proposed clear-cut geographic borders for these three subgroups, the linguistic evidence is rather vague. Of 'Sub-Ambon' he wrote:

1. 'Ur-Ambon' *l, *r *d > l;
2. 'Ur-Ambon' *k, is often lost; and
3. A support-vowel -e was added after nouns ending in final consonants.

Of 'Sub-Buru' he noted only that the vowel preceding the stressed syllable is usually lost. 'Sub-Seran' is negatively defined as those 'Ur-Ambon' languages which do not display the innovations of the other two groups.



SB: 'Sub-Buru'; SA: 'Sub-Ambon'; SS: 'Sub-Seran'

Among those languages or language groups specifically excluded by Stresemann are Sula¹, Bonfia², Seran-Laut³ and Banda Eli-Elat⁴. He was uncertain about the positions of Boano, Kelang and Manipa.

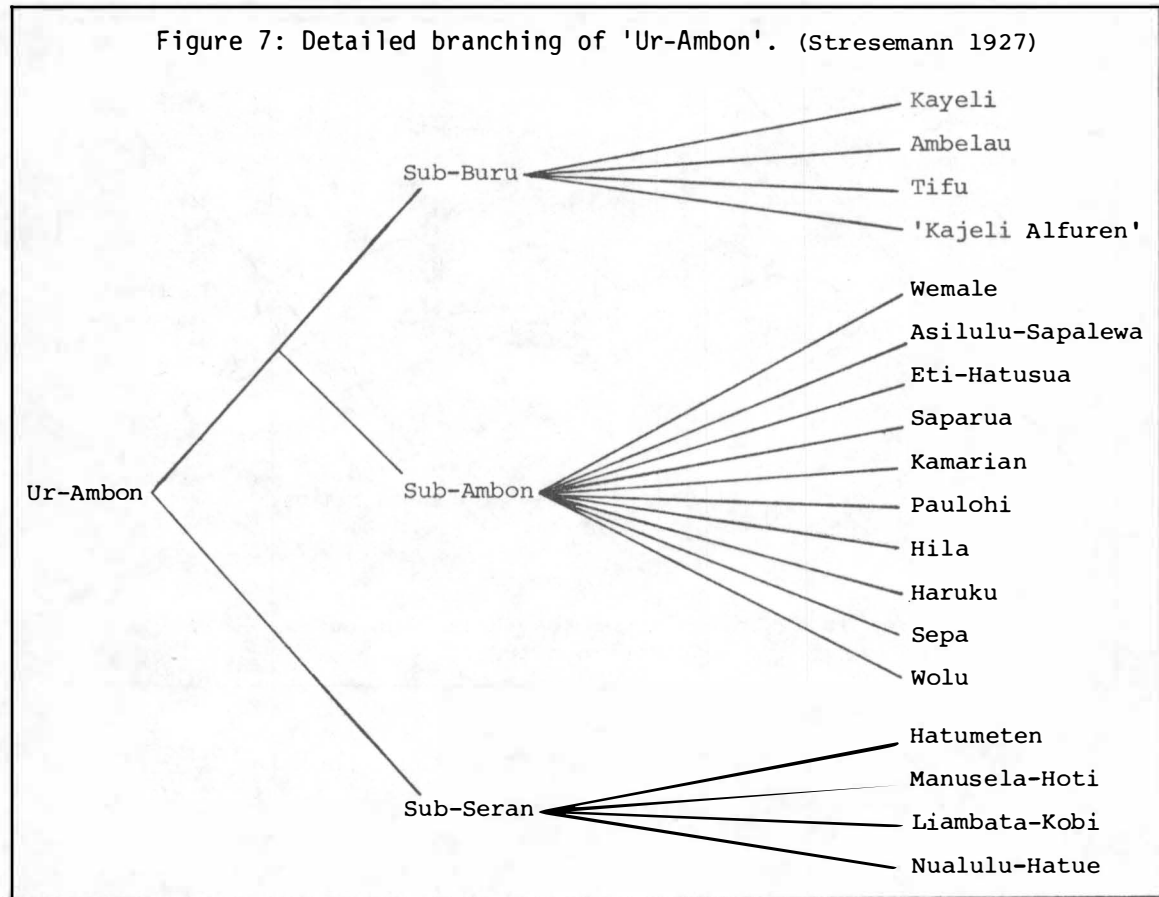
¹Refer to Blust 1981, for arguments suggesting a reclassification of Soboyo (Taliabo) in the Sula Islands.

²Bonfia is spoken by small groups along the Masiwang River. Hence, here it is referred to as Masiwang.

³Seran-Laut is spoken in easternmost Seram and on numerous islands towards the southeast. Here it is called Geser-Gorom.

⁴Originally Banda Eli-Elat was spoken in the Banda Islands. Since the expulsion of the indigenous population in 1621, the language survives only in two villages established by the survivors in Kei, 400 km to the southeast.

Subgrouping within each of these three branches of 'Ur-Ambon' is equally vague. In 'Sub-Ambon' he suggested four language subgroups: Wemale, Asilulu-Sapalewa (including Loun, Piru, Lisabata and Batumerah), Eti-Hatusua (including Kaibobo and Waesamu as well) and Saparua (including Amahi and Nusalaut). The details of Stresemann's classification arguments regarding these groups will be considered elsewhere. In addition to these four well-defined language groups, he acknowledged six other indigenous descendants of 'Sub-Ambon'. He hesitated to classify them with the four major language groups and preferred to consider them isolated languages. These other 'Sub-Ambon' languages are Kamarian, Paulohi, Hitu, Haruku, Sepa and Wolu. See Figure 7.



Stresemann (1927:7) admitted that he had no such clear notions about 'Sub-Buru'. He observed that the three innovations attributed to 'Sub-Ambon' did not take place in 'Sub-Buru'. All descendants of 'Sub-Buru' display vowel deletion in unstressed syllables as already noted. He considered Ambelau, Kayeli, Tifu and 'Kajeli-Alfuren' descendants of 'Sub-Buru' but he did not clarify their relationships with one another. Apparently he considered Kayeli a sort of transitional language between 'Sub-Ambon' and 'Sub-Buru' because Kayeli displays vocabulary, grammar and unstressed vowel deletion characteristic of Buru but a support vowel and the merger of *r, *d and *l characteristic of 'Sub-Ambon'.

While acknowledging that the languages of Boano, Manipa and Kelang are descendants of 'Ur-Ambon' he had too few data to decide whether they were members of 'Sub-Ambon' or 'Sub-Buru'.

Largely based on morphological markers (in particular noun-markers) Stresemann proposed four subgroups of 'Sub-Seran'. They are Hatumeten, Manusela-Hoti, Liambata-Kobi and Nuaulu-Hatue.

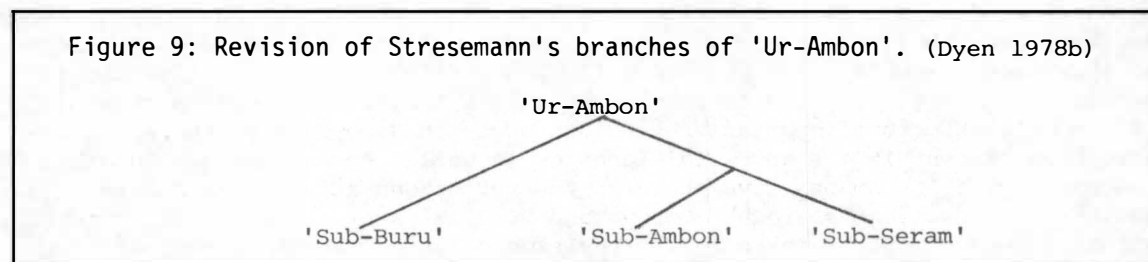
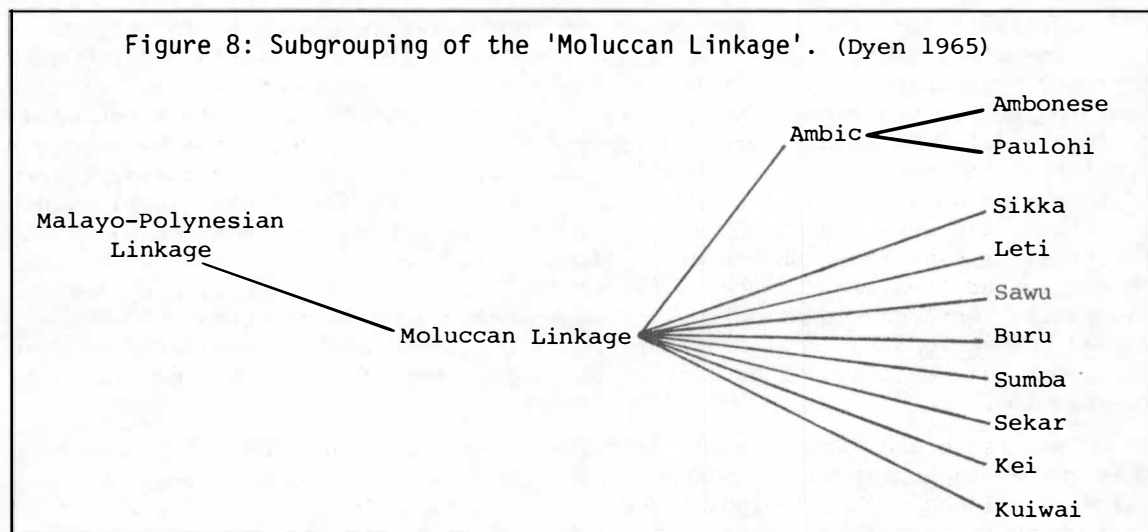
Justifications for all the subgroups considered in Figure 6 are very vague. It is important to note that one of the problems with Stresemann's subgroups is the very principle upon which he based his work. As we noted earlier, in addition to his major contributions to linguistics, Stresemann, was a renowned ornithologist. Although there are important historical connections between the biological sciences and historical linguistics,¹⁷ to approach the classification of languages as a kind of taxonomy is to overlook the role of historical sequencing and linguistic development. In other words it is not enough to point out similarities, or even isomorphisms or mappings. One might try to determine whether these similarities were caused by retention of some older feature, a shared innovation, mere chance or borrowing. Linguistic enquiry requires evidence of shared innovations to show genetic proximity. Simply listing similarities does not constitute evidence of genetic relationship, nor of course of proximity in subgrouping.

This issue underlies Blust's critique (1981) of Stresemann. In that paper Blust noted important innovations shared by Buru and Soboyo, a language of the Sula Islands. They include merger of *mb and *mp to b and of *nd and *nt to d which is a distinctive innovation of CMP. He also singled out several innovations shared exclusively by Buru and Soboyo: *p>h, *b>f, *R>h, *j>l, y, Ø and metathesis of *isa *one*. Because Buru is a well-attested descendant of 'Ur-Ambon' and Buru and Soboyo are closely related, Soboyo must be considered a descendant of 'Ur-Ambon' as well. Acknowledging the membership of Soboyo in 'Ur-Ambon' necessitates many revisions in Stresemann's inventory of the proto-sounds of 'Ur-Ambon'. Numerous important retentions occur in Soboyo which therefore must have been present in its ancestral language as well. Recent changes in other descendants of 'Ur-Ambon' have obscured the retentions attested in Soboyo. By observing innovations shared by Soboyo and Buru, Blust was able to indicate the direction which must be taken in the revision of Stresemann's concept of 'Ur-Ambon'. Dyen, on the other hand, has suggested changes in the subgrouping of 'Ur-Ambon' based on different principles. In two papers he has remarked in passing on details of the classification of the languages of western Seram. His analysis is based on lexicostatistical computation of older wordlists.

In his major paper on the lexicostatistical classification of AN languages, Dyen analysed data taken from van Hoëvell's 1877 vocabulary of five languages of Ambon and Uliase and Stresemann's 1918 study of Paulohi. He concluded that, based on lexicostatistical evidence, the five languages of Ambon and Uliase (Asilulu, Hila, Haruku, Saparua and Nusalaut) formed a dialect chain. Paulohi was related to this chain. Paulohi and the Ambonese dialect chain form the Ambic subfamily, a member of the Moluccan Linkage. Buru was also considered a member of the Moluccan Linkage. See Figure 8.

This is quite different from Stresemann's analysis in which only Saparua and Nusalaut are closely related while Asilulu, Hila, Haruku and Paulohi are in separate branches of 'Sub-Ambon'. Also the relationship between 'Sub-Ambon' and Buru is much closer than Dyen's lexicostatistical conclusions allow.

In a later paper (1978b) Dyen undertook further lexicostatistical enquiries; in this case he used van Hoëvell's material and the data found in van Ekris (1864-65) as well. In it he wrote (1978b:391): "I am inclined to believe that the speech-types assigned to Proto-Ambonic are more closely interrelated with the speech-types subgrouped under Proto-Seram than any are with those attributed to Proto-Buru." This suggests a revision of Stresemann's analysis. See Figure 9.



Dyen's lexicostatistical comparison of the van Ekris wordlists points to a family tree of certain western Seram languages which is more richly detailed than Stresemann's and, in fact, contradicts it. He recognises the Saparua-Nusalaut and Kaibobo-Hatusua groups: however, he emphatically separates Alune from Asilulu and other western Seram languages; Stresemann included Asilulu and Alune ('Sapalewa') in a single subgroup of 'Sub-Ambon' (as in Figure 7). By asserting that Hila and Asilulu constitute a dialect chain, Dyen is likewise at odds with Stresemann's analysis. Furthermore Dyen's 'West Coast Seram' chain indicates internal relationships which Stresemann was reluctant to assert. See Figure 10.

Dyen's recent work with Central Maluku languages represents only minor revisions of Stresemann's classifications. In both papers Dyen's immediate concern was not subgrouping of Maluku languages, which he treated only in passing, but broader issues: subgrouping of PAN in one and identifying PAN's sound inventory in another. There exists, however, a full scale attempt at classifying the languages of Maluku by relying largely on lexicostatistical computation.

Figure 10: Subgrouping of 'Proto-Ambonic'. (Dyen 1978b)

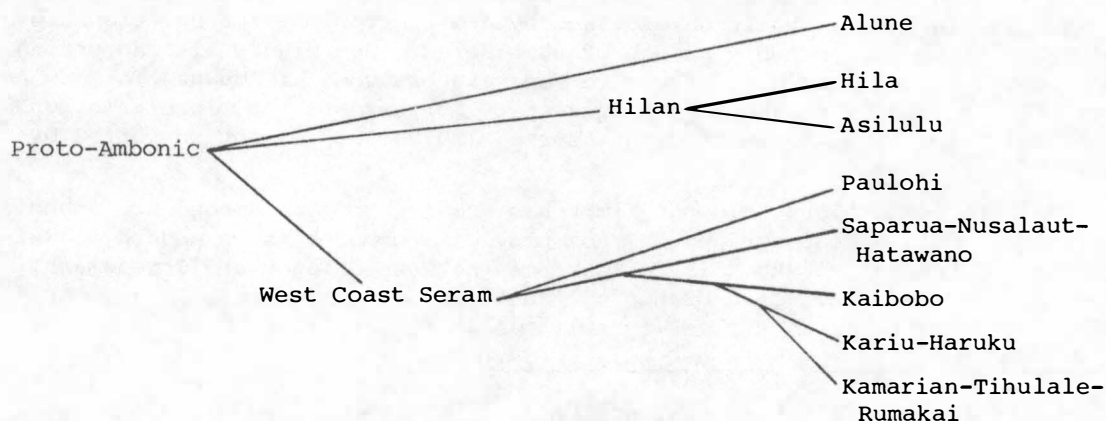
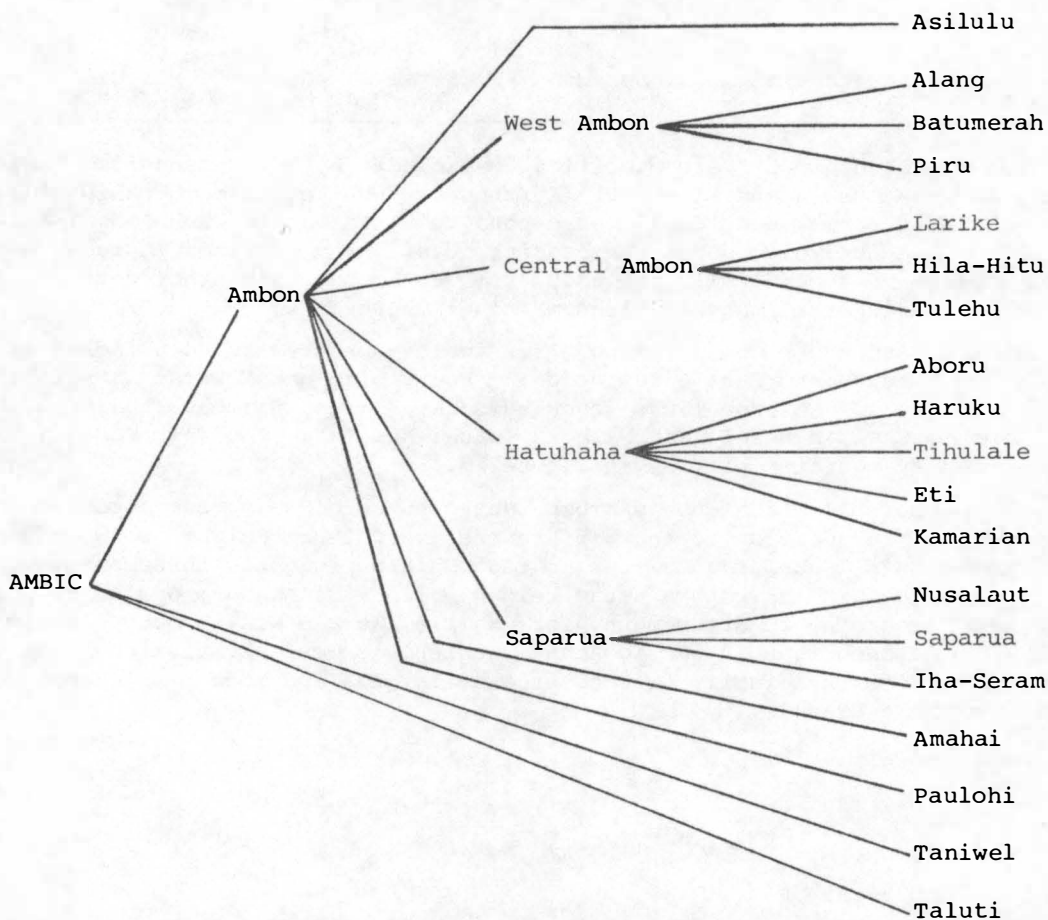
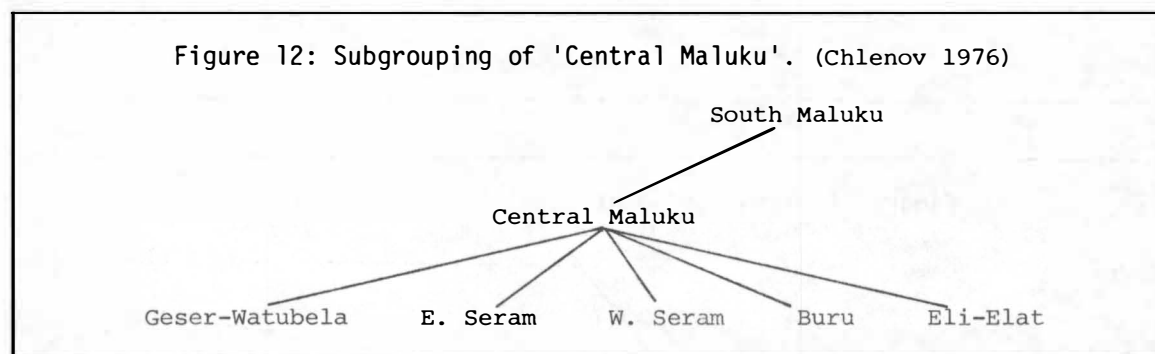


Figure 11: Subgrouping of 'Ambic'. (Chlenov 1976)



Chlenov (1976) undertook an independent application of lexicostatistics to language classification in Maluku. There are some points of similarity between his results and those of Dyen. For example, Chlenov too disassociates Alune from other languages of western Seram. He also recognises the Saparua-Nusalaut group. But in other details Chlenov and Dyen differ. Note the relationships indicated in Chlenov's Ambic branch of West Seram. See Figure 11. According to Chlenov, Asilulu and Hila belong to separate branches of Ambon. They do not constitute a dialect chain as Dyen suggests. Furthermore the close relationship of Kamarian and Tihulale which Dyen asserted (1978b:392) is not supported by Chlenov's findings.

Unlike Dyen, Chlenov did not limit his enquiry to 'Sub-Ambon' or 'Ambonic' languages. Only Stresemann and Chlenov provide a comprehensive modern classification of Central Maluku. The differences between Chlenov and Stresemann, however, are striking. In a branch of 'South Maluku' which he calls 'Central Maluku' Chlenov proposed a five way split as in Figure 12.

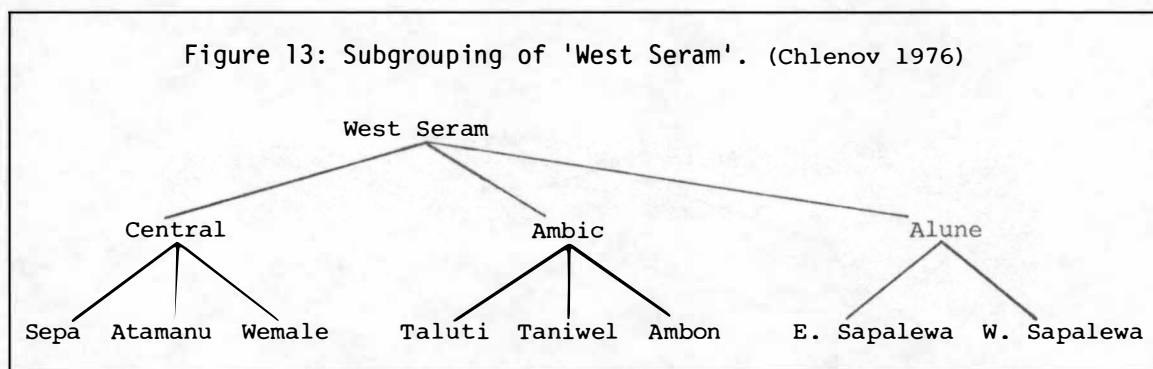


Two of these groups were specifically excluded by Stresemann from 'Ur-Ambon', namely Geser-Watubela and Eli-Elat. Furthermore, while the membership of Chlenov's 'West Seram' and 'Buru' correspond to Stresemann's 'Sub-Ambon' and 'Sub-Buru' respectively, under the heading 'East Seram' Chlenov includes Bonfia, which Stresemann specifically excluded from 'Ur-Ambon'. In other details Chlenov's 'East Seram' matches Stresemann's 'Sub-Seram'.

In the Buru group Chlenov recognises two branches: West Buru including Kayeli and Ambelau and East Buru including Fogi, Tifu and Mountain Buru.¹⁸ Under 'East Seram' Chlenov lists seven members: Bonfia, Liambata, Batuasa, Fufa (Hoti-Fufa), Seti, Manusela and Saleman (Wahai-Nuaulu). The West Seram group underwent a tripartite split as in Figure 13.

The membership of Chlenov's Ambon subgroup has already been detailed above (Figure 11). In addition to the differences noted there Chlenov's 'West Seram' and Stresemann's 'Sub-Seram' differ in that Chlenov suggests three subgroups to which all languages in western Seram belong while Stresemann proposed no such subgroup. According to Stresemann, for example, Wemale was no more closely related to Atamanu than it was to Alune. Chlenov's lexicostatistical classification results in a family tree of greater detail and more complex organisation than Stresemann's.

Figure 13: Subgrouping of 'West Seram'. (Chlenov 1976)



Nonetheless it is worth repeating that the analyses of Dyen and Chlenov do not always agree, although both used lexicostatistics in their classifications. One of the problems inherent in the use of only lexicostatistics is that it can become an enumeration of superficial similarities in phonetics and meanings. In the following chapters it will become apparent that in numerous instances both Dyen and Chlenov were unable to distinguish borrowed words from inherited words. Very little of either Chlenov's or Dyen's data is available for that kind of scrutiny. Precisely what cognation decisions were involved in compiling the figures which appear in their analyses?

In failing to make available the basis for their conclusions except in a few instances where, in fact, the data are highly questionable, Chlenov's and Dyen's enquiries do not represent advances beyond Stresemann or indeed van Hoëvell. In these two early authors errors occur but there are wordlists and vocabularies. Their errors are accessible and, thus, constitute permanent contributions to the study of Central Maluku languages.¹⁹ Chlenov, Dyen, van Hoëvell and Stresemann all attempted language classification by enumeration of similarities with little regard for the historical evolution of those points of similarity.

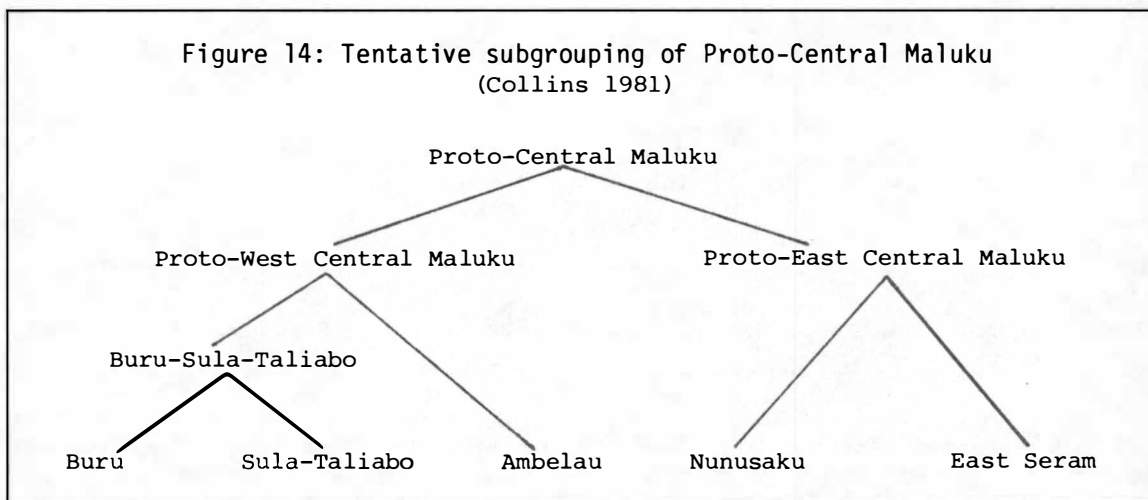
3. The descendants of Proto-Central Maluku

In an earlier paper (1981) I proposed that there are two major branches of the ancestral language of Central Maluku. Proto-Central Maluku split into Proto-West Central Maluku and Proto-East Central Maluku. The descendants of PWCM are Taliabo, Sula, Buru and Ambelau; the descendants of PECM are spoken in Kayeli on Buru and on Seram as well as all the adjacent islands as far as the Seran Laut islands.

This position supports Blust's Soboyo-Buru group and it confirms Dyen's suggestion that all the languages of Seram are more closely related to each other than they are to Buru.

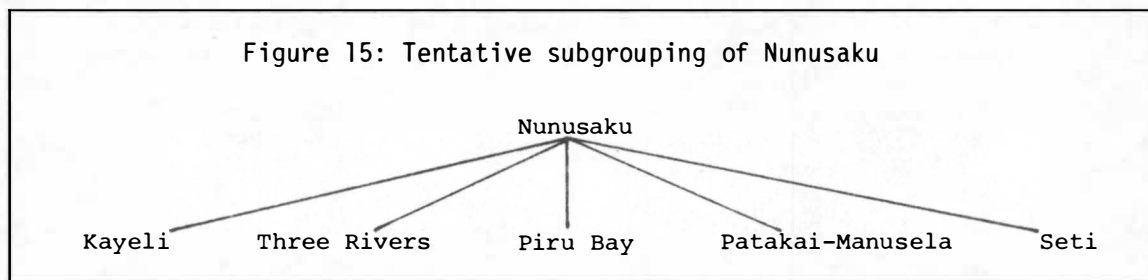
It is likely that PECM had two branches: East Seram and Nunusaku. East Seram includes the languages identified by Stresemann as 'Bonfia', 'Hatumeten' and 'Seran-Laut'. Nunusaku includes all the languages west and north of Seram's Bobot River basin as far as the Manipa Straits including all the languages spoken on adjacent islands. See Figure 14.

Figure 14: Tentative subgrouping of Proto-Central Maluku
(Collins 1981)



There are probably only five branches of Nunusaku, although most of these branches have numerous descendants. See Figure 15. The relationships indicated by Figures 14 and 15 are proposed only tentatively. Considerably more data and several years of further research are required before a clear understanding of the relationships of all these languages can be ascertained with some confidence. The family trees proposed here are working models from which more thorough research can proceed. No attempt is made here to demonstrate the validity of these tentative proposals.

Figure 15: Tentative subgrouping of Nunusaku

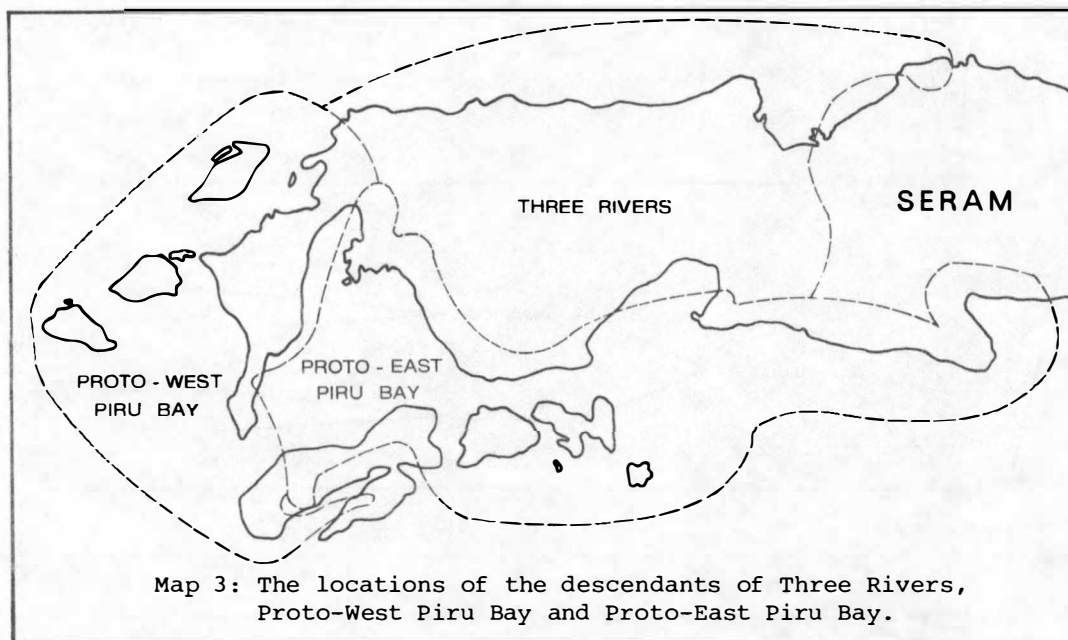


Rather, here only two branches of Nunusaku will be discussed: Proto-Piru Bay and Three Rivers. These are the proto-languages of all the languages included by Stresemann in his 'Sub-Ambon' subgroup as well as several languages which he was unable to classify, Manipa, Boano and Kelang, or of which apparently he was unaware: Naka'ela, Laha, Hulung and Awaiya.

The dendrogram proposed here represents a radical departure from preceding analyses. See Map 3 and Figure 16. First it separates some languages previously considered closely related. For example, the Alune language (van Hoëvell's 'Patasiwa Alfoeren' and Stresemann's 'Sapalewa') is not considered a close relative of languages on Ambon Island, as both Stresemann and van Hoëvell would have it. Instead, Alune is a descendant of a separate branch of Nunusaku. On the other hand, languages hitherto considered only remotely related are demonstrably more closely related. For example, Sepa and Wolu are considered here as members of the East Littoral dialect chain, a branch of Proto-East Piru Bay. Stresemann treated them as separate descendants of 'Sub-Ambon' while Chlenov

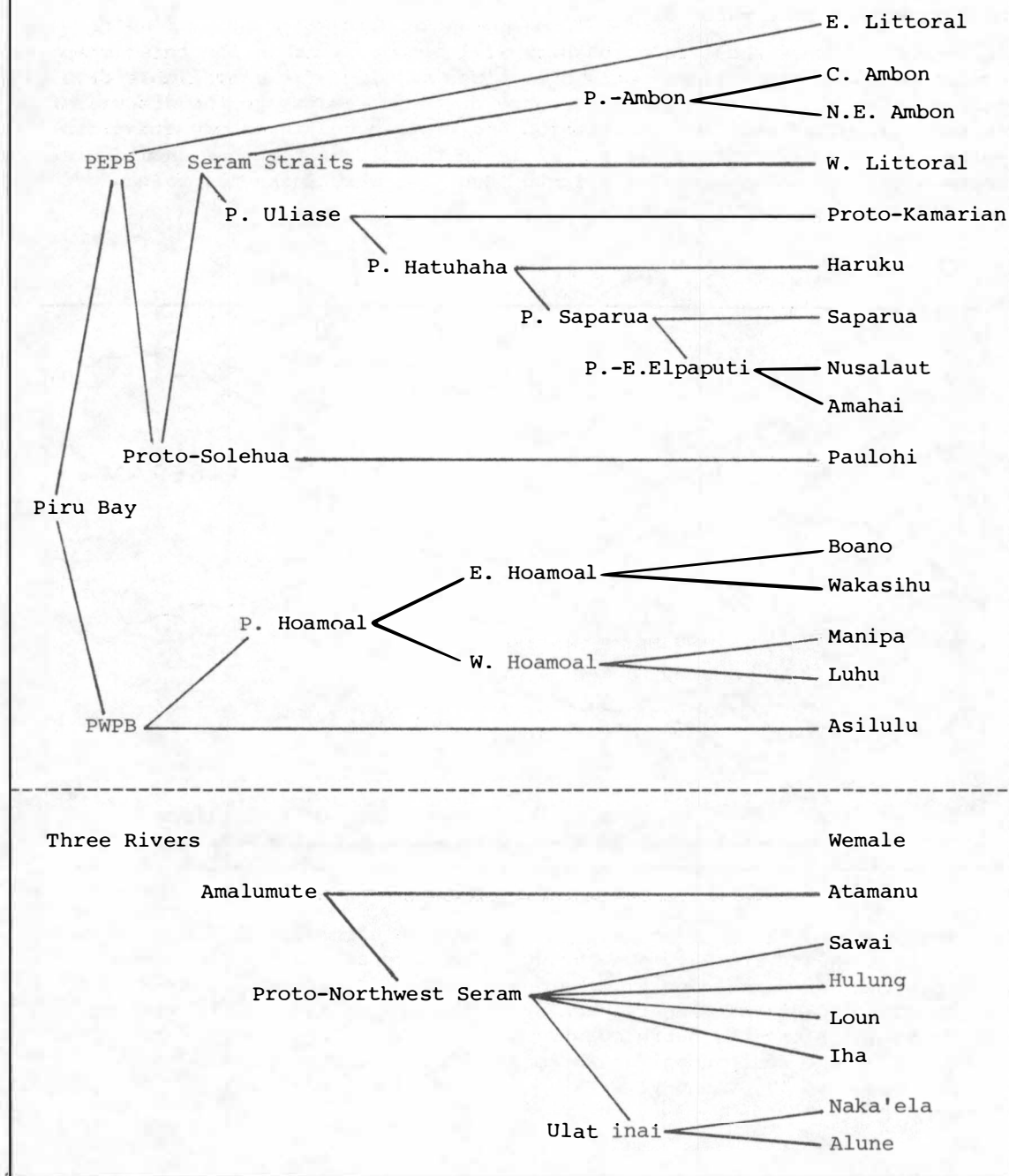
assigned them to completely different branches of 'West Seram'. The relationships of other languages which earlier authors hesitated to classify are now clear. For example, although Dyen was not sure of the position of Piru, evidence presented in the following pages demonstrates the dialectal relationship of Luhu and Piru within Proto-West Piru Bay.

The details of these relationships will become clear in the three chapters devoted to their exposition. Only meticulous sifting of the available data can yield convincing results. The importance of these results to the discussion of PAN subgrouping as well as establishing its proto-sound inventory and proto-syntax has been discussed earlier. It is in this light that one should view the numerous details and somewhat intricate enquiries which make the following chapters less than smooth flowing.



The group to the extreme left of the map includes all the descendants of Proto-West Piru Bay. The group which stretches along the south coast of Seram includes all the descendants of Proto-East Piru Bay. The descendants of Three Rivers are found in the interior of western Seram and along the north coast. Some of these languages are now found on the south coast of Seram as well. For more detailed maps see Chapters IV, V and VI.

Figure 16: Subgrouping of Piru Bay and Three Rivers



CHAPTER III

MORPHOSYNTAX AND PHONOLOGICAL RECONSTRUCTION IN PROTO-CENTRAL MALUKU

Stresemann (1927:6) set forth three grammatical developments in 'Ur-Ambon' which distinguished it from PAN. They are:

1. Nouns are divided in that some take prefixed possessive pronouns while others take suffixed possessive pronouns;
2. The plural of nouns is expressed by a suffixed plural marker; and
3. The verbs are conjugated by partial fusion of their initial sounds with the remnants of ancient subject prefixes.

It is not our intention to evaluate here these grammatical innovations. The use of morphosyntactic evidence in ascertaining subgrouping relationships is very complicated, as Greenberg (1957:46+) and others have demonstrated. The unusually great chance of grammatical convergence among these closely related languages necessitates a cautious approach to the use of morphosyntactic criteria. Our knowledge of PAN syntax is at such a rudimentary stage that declarations about distinctive innovations in morphosyntax within a single subgroup are bound to be rash. Furthermore very little has been written about the grammars of any Maluku languages or about the grammars of languages geographically proximate to Maluku.

For the time being, the question of the validity of Stresemann's observations as subgrouping arguments is set aside. Nonetheless it is important to consider certain morphosyntactic phenomena because they result in obfuscatory phonetic changes. In the following chapters numerous sound changes in Central Maluku languages are discussed in some detail. In order to set the stage for those discussions it is necessary to explain some grammatical processes which have resulted in striking phonetic modifications.

These morphosyntactic processes appear to be widespread. Precisely how widespread and how ancient they may be is not yet clear. Enquiries to resolve those questions are beyond the scope of this study of certain languages of Central Maluku. Rather, these topics are taken up because of their inherent explanatory strength in clarifying specific phonetic phenomena. At some later date, when more data have been accumulated and analysed, study of these topics can be resumed with greater efficacy.

The morphosyntactic topics considered here are in part identical to the innovations discussed by Stresemann. The conjugation of PCM verbs and the categorisation of PCM nouns are dealt with. An additional topic taken up here is marking of dependent verbs both in embedded sentences as well as in nominalisations. Data will be drawn from a number of Central Maluku languages. Naturally those languages with which I am most familiar will be of central importance. In some cases information from other AN languages is presented, not to establish the antiquity or universality of a certain process but, rather, to deepen our understanding of the process itself.

1. Conjugation: person markers, syncope and sound change

Scholars studying Oceanic languages have long noted that in those languages verbs are marked by a pronominal prefix to indicate the person and number of the subject of the sentence. This system of carrying referential information within the verb has been reconstructed in Proto-Oceanic (Foley 1976; Pawley and Reid 1976; Pawley 1977 and elsewhere). Indeed, the retention of subject determiners as preverbal particles has resulted in the preservation of verbal morphology in some Oceanic languages (Pawley 1977:3-4).

Students of Austronesian languages have not failed to note that subject marking of the verb is not restricted to Oceanic languages. Numerous languages in Indonesia display such syntactic systems. Obligatory subject marking has been noted in languages as far west as Aceh in northernmost Sumatra (Lawley 1977 and, before him, Cowan 1947). Jonker (1910-11:267) also noted its occurrence in several Austronesian languages. Foley (1976) and Pawley and Reid (1976) have attempted to accommodate this widespread case-marking system with the facts of another widespread system, focus marking.

The results of these preliminary syntheses are of no direct concern with the issue here. The point is that subject marking of the verb is a system of grammatical inflection which has a long history in PAN. Its appearance in the languages of Maluku is clearly not unique. Nor has it been overlooked.

As early as 1877 van Hoëvell noted that in the languages of Ambon and Uliase an auxiliary pronoun ('hulpvoornaamwoorden') stood between the subject and the verb of a sentence. Some of the apparent changes in verbal form resulting from the preposing of such 'auxiliary pronouns' van Hoëvell attributed to 'euphony' (1877:23-24). But he acknowledged that at least in some languages the initial sound of the verb underwent changes according to the person and number of the subject. Drawing on van Hoëvell's observations as well as his own and others' research, Jonker (1910-11) wrote extensively about inflected verbs in Maluku and elsewhere. Stresemann (1927) also devoted some pages to the exposition of various conjugations in Central Maluku.

Of critical importance in this pronominal marking system of Central Maluku languages is not only that an ancient syntactic system has been preserved but further that it has evolved into systematic paradigms of verbal inflection. The initial sounds of many verbs have undergone phonetic alteration because of the existence of verbal conjugation.

According to Jonker the obligatory preposing of personal pronouns to verbs at some earlier stage resulted in inflectional alternation. The development of conjugations was probably accomplished in several successive stages. First, permanent preposing of the subject marker to the verb occurred; for example,

*aku ku+taŋis>*aku kutaŋis *I weep* and *kaSu mu+taŋis>*kaSu mutaŋis *You weep*. Then syncope occurred at least in those initial syllables which contained a high vowel; for example, *aku kutaŋis>*aku ktaŋis *I weep* and *kaSu mutaŋis>*kaSu mtaŋis *You weep*. At a still later stage these resulting initial consonant clusters underwent sound changes which took place in all such clusters; so, for example, in Proto-Piru Bay *aku ktaŋis>*aku tani *I weep* and *kaSu mtaŋis>*kau ɣani *You weep*. Then certain subgroups or languages fused additional pronominal markers to the verb; for example, Asilulu (aʔu)u-tani *I weep* and (ale) a-rani *You weep*. Other subgroups or languages did not prepose additional pronominal markers; in Seit aʔu tani and Manipa aune kani *I weep* and Seit ale kani and Manipa anene rani *You weep*.

The sequence of events suggested here is:

<i>I weep</i>	*aku kutaŋis>aku ktaŋis>aku tani	> Asilulu	(aʔu)	utani
		> Seit	aʔu	tani
		> Manipa	aune	kani
<i>You weep</i>	*kaSu mutaŋis>kaSu mtaŋis>kau ɣani	> Asilulu	(ale)	arani
		> Seit	ale	kani
		> Manipa	anene	rani

In summary, by the sequential occurrence of syncope and a constraint on initial consonant clusters and regular sound changes which occurred throughout the lexicon, the inherited morphosyntactic system of pronominal marking of verbs evolved into a complex conjugational system.

This inflectional treatment is not restricted to verbs with a certain initial consonant. Stresemann (1927:119-125) outlined six different conjugations not including the neutral conjugation in which no change takes place in the initial consonant of the verb. One of the conjugations noted by Stresemann is suggested above. Verbs with initial t's and those with initial s's are treated in similar ways; they are combined here.

Examples of each of the conjugations are given below. From Manipa four conjugations are cited; three of these occur when the initial sound of the verb is t or s, b and p respectively. In verbs with initial vowels, Manipa displays the n- conjugation; that is alternation of zero and n.

Conjugation	t-/s-	b-	p-	n-
PAN	*ta-buRa	*bunuq	*pa-siku	*inum
Gloss	<i>spit</i>	<i>kill</i>	<i>nudge with elbow</i>	<i>drink</i>
1sg	aune	kahula	asiu	inu
2sg	anene	rahula	pasiu	ninu
3sg	ene	rahula	pasiu	ninu
1pl.e	amine	rahula	asiu	ninu
1pl.i	cene	kahula	asiu	iʔinu
2pl	imine	rahula	ipasiu	ininu
3pl	reli	lakahula	laʔasiu	laʔinu

The following examples of two conjugations are from Asilulu. In the neutral conjugation no change takes place in the initial sound of the verb; there is, however, preposing of pronominal markers. The other conjugation occurs with verbs with initial k.

Conjugation		k-	Ø (Neutral)
PAN		*kə(dD)əŋ	*taŋuy
Gloss		<i>stand</i>	<i>swim</i>
1sg	aʔu	wele	unanu
2sg	ale	akele	ananu
3sg	ali	ikele	inanu
1pl.e	ami	maʔele	mananu
1pl.i	ite	ʔele	nanu
2pl	imi	(i)kele	(i)nanu
3pl	sini	siʔele	sinanu

The paradigms cited above were examples of the six conjugations which Stresemann reconstructed for 'Ur-Ambon'.²⁰ No single surviving descendant of PCM reflects all six conjugations. Manipa comes very close with five active conjugations and a remnant of a sixth conjugation.²¹ Other West Piru Bay languages retain only four (Asilulu) or five (Luhu). Other descendants of PCM have lost most of the conjugations. In Seit only three conjugations survive. In Laha, which is closely related to Seit, no verbal conjugation survives.²² Latu and other Saparua dialects similarly display loss of all conjugational systems and merger into the neutral conjugation.

Nonetheless many of these languages display remnants of the old conjugational systems. In some cases two inflectional forms coexist in the lexicon, each with a slightly different meaning. For example, in Murikau (Alune) we note *rekwa* to *know* but *makatekwa* an *unusually clever person*. Both of these are from PCM *tewa. The agentive prefix *maka- has preserved the older form of the verb whereas only the third singular form of the verb has survived as the unconjugated verb.

In Asilulu numerous doublet pairs occur in which the first person form survives beside the third person form with only stylistic differentiation.²³ In Alang, except for the oldest generation of speakers, inflectional forms of the s-/t- conjugation are in free variation whereas one inflected form of the k- conjugation is considered more refined than the other forms.²⁴ In Laha one verb *tapuri now displays a curious semantic innovation. The first person singular form *tapuri* means *hold (a non-human entity)* but the second person singular form *kapuri* means *hold (human)*.

In all descendants of PCM the complex conjugational systems have gradually eroded. Sometimes this results in complete loss of any trace of conjugation. In other cases it has resulted in numerous irregular verbs.²⁵ In most cases it has left traces in the contemporary lexicon. It is precisely the retention of remnants of the conjugational system which is of importance in phonological reconstruction.

In the following chapters, data will be submitted regarding sound changes which affected prenasalised occlusives. In some cases, verbs which are reconstructed with nasal clusters in the second or third person singular are cited; for example *mtaŋis *You weep*. No PAN words have been reconstructed so far with initial nasal clusters. One of the factors in the development of such clusters in PCM has been verbal case-marking and subsequent syncope as discussed here.

In some cases citing reflexes of PAN or PCM reconstructions in one or another inflectional forms may be confusing. In general this has been avoided but in those cases where no clearer form is available, such forms are necessarily cited. It is important to recall these preliminary remarks regarding verbal conjugations.

2. Genitive systems and unexplained final consonants

Van Hoëvell (1877:15-16) contended that the treatment of compound nouns in the languages of Ambon-Uliase distinguished them from other languages of the Indonesian archipelago. He contrasted *Hila mata hatu* (literally *eye, stone*) and Malay *biji mata* (literally *seed eye*) which both meant *eyeball*. The initial position of the 'possessor' in Hilan (and other Ambonese languages) contrasted to the final position of the 'possessor' in Malay (and other western languages).

This difference in word order, particularly in genitive constructions, was the basis of the Brandes line (1884) which divided Austronesian languages into two branches: eastern and western. The line roughly separated languages east of Sulawesi and Flores from those to the west of the line. Friederici (1913) modified the details of this hypothetical line particularly in Melanesia but he insisted on its classificatory relevance. Kern's observation (1906) that the languages of eastern Indonesia might be considered transitional languages between the eastern and western branches of Austronesian may have arisen in part due to this word order peculiarity.

Although Jonker (1914) soundly criticised Brandes's and Friederici's assumptions, analyses and data, thereby rejecting this word-order criterion as a basis for subgrouping, the idea that this criterion is valid has proven unfortunately tenacious. Cowan (1951-52) reintroduced the notion in his discussion of the Austronesian languages of New Guinea. Capell, even as late as 1972, has argued that this preposed possessor genitive system is an important classificatory parameter.

The issue under consideration in this section is related to this question of the order of nouns in genitive constructions. Once again, however, the issue is not whether such a criterion is useful in subgrouping. Indeed, Jonker definitively answered that question over sixty-five years ago. The point is that the formation of genitive constructions in descendants of PCM intersects with phonological considerations. That is, in order to avoid possible confusion regarding reflexes of PAN cognates, it is necessary to consider briefly the genitive construction in Central Maluku languages.

The genitive systems in Central Maluku languages involve two factors: word order and noun categories. In the interaction of these two factors, certain sound changes take place. Those sound changes and the mechanics of genitive constructions in Central Maluku are considered here.

The languages of Central Maluku distinguish two categories of nouns: alienable and inalienable. The inalienable category includes most body parts, kinship terms and 'name' as well as other nouns considered to be intimate, irrevocable possessions. For example, leaf, root, branch, trunk, etc. are also treated as inalienable nouns. Alienable nouns are objects of mere possession, simple property, things whose relation to the possessor is merely transitory. Different languages may differ in some details regarding which nouns are considered alienable and inalienable. Furthermore the respective categories are not always transparent to the non-native speaker. In most Central Maluku languages, for example, head-hair, fingernails and veins are alienable nouns but body-hair, bones and blood are inalienable.

The relevance of the two categories appears in their respective genitive systems. In Central Maluku the possessor noun precedes the possessed noun. This parallels the SVO order of sentences in these languages. The head (agent) noun of the genitive noun phrase precedes the dependent (object) noun just as in a sentence the subject precedes the verb.²⁶ Similarly just as in a sentence

the verb is obligatorily marked for person and number of the subject so too the possessed noun is marked for the person and number of the possessor. If the possessed noun is an alienable noun, the pronominal marker precedes it. If the possessed noun is an inalienable noun, the pronominal marker follows it. Note the following genitive systems of Kaitetu.

Alienable	*Rumaq <i>house</i>	Inalienable	*mata <i>eye</i>
1sg	au luma	1sg	au matau
2sg	alem luma	2sg	ale matam
3sg	inip luma	3sg	ini matap
1pl.e	ami ma luma	1pl.e	ami matama
1pl.i	ite ka luma	1pl.i	ite mataka
2pl	imi mi luma	2pl	imi matami
3pl	sini si luma	3pl	sini matasi

In the singular alienable column we note that the first person marker is apparently zero. Presumably *u was lost after *k, becoming zero; that is, *aku ku luma>au u luma>auu luma>au luma. The final vowels of the second and third singular pronominal markers are lost: the resulting nasal is postposed to the possessor noun.²⁷

The details of the genitive systems may vary with each Central Maluku language. Nonetheless the overall system is well demonstrated by the examples from Kaitetu, with one exception. In Kaitetu, unlike other Central Maluku languages, there is no special pronominal marker to indicate non-human third person possessors.²⁸ For example, in Kaitetu we note luman buku *ridgepole of the house* and asu arup *dog's tail* where the third singular pronominal marker is *n* both for human and non-human nouns. In most other languages a specific marker exists for non-human possessors.

That most languages display distinct markers for non-human nouns is apparent from the following examples from several descendants of Nunusaku. While most of these markers can be derived from pronouns and noun markers, it is not the intention here to reconstruct these non-human pronouns in detail or to use them in subgrouping arguments. Our knowledge of the demonstratives and pronouns in Central Maluku does not permit such speculation. Rather, the forms are cited to demonstrate the numerous forms which these markers display.

	Asilulu	Hitu	Hukuanakota	Hunitetu	Kailolo	Latu
3sg +hum	n(i)/na	i/p	i	i/ni	i	i/p
3sg -hum	ne	li	le	i/li	i	no
3pl +hum	ri	si	si	si	si	si
3pl -hum	r(u)	l(u)	lu	lu	i	n

Hitu and Latu, descendants of Proto-East Piru Bay, and Wemale, a more distantly related language, display two entries for third singular human pronominal markers. There are clear-cut phonetic environments in which each form occurs. Following nouns which end in a high front vowel, -ni or *n*(i) appears; elsewhere *i* occurs. In Asilulu *na* is the preposed third singular human marker while *ni* is postposed.

All these above mentioned pronominal forms can be considered reflexes of PAN *ni-a '3sg genitive pronoun'. PAN *siDa '3pl genitive pronoun' is reflected in *si* and *ri* (the latter from a prenasalised form, *nsi>ri).²⁹

The origins of other pronominal markers remain to be considered. In Alune (Hakuanakota), Wemale (Hunitetu) and Hitu *le* or *li* is the third person sg. non-human pronominal marker. This occurs elsewhere in the vocabularies of all these languages. In Alune *le* occurs as a suffix after transitive verbs when an object is not expressed. For example, Hukuanakota displays *baiʔele stir (something)*, and *kisaʔele dispose of (something)* but *mali laugh* and *suku bathe*. In Hitu we find *le here at*, *waʔa le here* and *nde (<*n+le) this*. This suggests that **le* was a demonstrative at some earlier stage in the history of PCM. This is confirmed by the appearance of *lo* as a postposed noun marker in Saparua.³⁰ Therefore we reconstruct PCM **lə this here*, a demonstrative which came to be used as pronominal place-marker in some languages or an article in others. In still others it was retained with its original meaning (cf. Asilulu).

The origins of the remaining forms are still uncertain. There may have been some contamination or mixing of pronoun and demonstrative forms; *ne/no* (PCM^{*}*nə*) suggests PAN **ni-a* and PCM^{*}*lə*. No conclusive analysis can be made at this point.³¹

It is important to note that in most Central Maluku languages inalienable nouns are never cited without a suffixed pronominal marker. Sierevelt (1920:3) complained that the Alune-speaking informants of his day did not know the root words ('grondwoorden') of their own language. He demonstrated his point by relating how speakers never answered a vocabulary question about body parts without expressing a possessor. So, for example, if one asked 'arm', the reply would be *balaku my arm* or *balamu your arm*. If one asked the meaning of *bala*, the informant would not know.

Apparently Sierevelt overlooked the implication of his informants' responses. Inalienable nouns are irrevocably associated with a possessor; they do not exist as abstract nouns. Consequently in many wordlists postposed pronominal markers inevitably occur. It is an indication that the noun in question belongs to the inalienable category just as in Alune *le* postposed to a verb is an indication that that is a transitive verb. A number of these languages carry important lexicographic information 'above board'.

This preliminary enquiry into the genitive systems of Central Maluku languages has been undertaken precisely because of this important phenomenon. Just as the conjugational systems carry information of syntactic importance so too the genitive systems externally display information regarding the lexicon of each language. It is not the purpose of the enquiry here to pursue this subject. Rather, the facts are outlined here only in order to answer in part questions raised by Jonker (1906). In that essay he noted some unexpected final consonants in languages of Central Maluku and elsewhere.

Here is it suggested that a number of those unexpected final consonants are postposed pronominal markers. Note the following examples:

		Latu	Hitu	Asilulu	Hunitetu	Allang
[*] Daqun	<i>leaf</i>	launno	laul	laune	launi	louri
[*] saga	<i>branch</i>	sananno	sanal	sanar	sanai	sanar (Larike)
[*] qatəluR	<i>egg</i>	terujjo	terul	telun	tauli	mantilonu

At first glance we might conclude that **n* and **R* merged to *l* in Hitu but *n* in Asilulu while Allang displays **n > r* but **r > n*. Our acquaintance with the genitive systems of Central Maluku languages, however, makes these possible interpretations absurd. Unexpected final segments in all these words are the predicted results of regular morphosyntactic processes; they are postposed pronominal markers.

3. Dependent verb marking: final consonants again

Jonker (1906:290) noted another unexpected final consonant in the languages of Ambon and Seram. He cited a few words in which -t occurred: *matay > matate *corpse* (PAN *to die*); *inum > maninto *beverage* (PAN *to drink*) and *si(n)duk > sasilute *spoon* (PAN *to ladle*). He said that in these words t took the place usually occupied by n. A more careful investigation into the appearance of final t in certain languages of Central Maluku suggests that t is also part of a morphosyntactic process. The seemingly irregular occurrence of final t can be demonstrated to be the regular outcome of a widespread grammatical marking system.

Initially we cite some examples from two languages of Central Maluku. Buru, a descendant of PWCM, and Asilulu, a descendant of PECM,³² both display final t in reflexes of PAN cognates in which no *-t is reconstructed. In many cases, the occurrence of these t's is not irregular. Citations out of sentence context obscure this fact. Compare the following sentences:

Asilulu:

1a. nalapun amaniwa
3SG+shirt, 3SG+thin
His shirt is thin.

2a. usan amite
skin+3SG, 3SG+black
Its skin is black.

3a. hatu lau rumarahina
stone, seawards, 3PL+slippery
The stones over there are slippery.

1b. sisuli lapun maniwat
3PL+enter, shirt, thin+REL
They're putting on thin shirts.

2b. iralu hatu mitet te'a halawan
3SG+put, stone, black+REL, for, gold
He fastened the black stone with gold.

3b. imanahu lau hatu marahinat
3SG+fall, seawards, stone, slippery+REL
He fell there by the slippery rocks.

Buru:

4a. huma na ha:
house that big
That house is big.

4b. kami safe huma ha:t
1PL.E, buy, house, big+REL
We bought a big house.

Numerous linguists (Lakoff 1970 et al.) have contended that there is a connection between relative clauses, and verbs and adjectives. For example, it is assumed that phrases like 'the house that is big' and 'the big house' are derived from a common source (Bach 1974:272). A syntactic rule deletes some forms and repositions others. Adjectives are derived from the verb of a relative clause.

The morphosyntactic rules of Central Maluku languages make that connection explicit. When a verbal is the main verb of a sentence, no postposed marking is required. In dependent clauses the verbals are marked with postposed -t. We note that in sentence 2a. PAN *ma-qitəm became -mite in Asilulu with an obligatory pronominal marker a- '3sg non-human'. In 2b. mite has become mitet in the dependent clause. That is *The stone (is) black* becomes *The stone (which is) black*. In Buru a similar process takes place. PAN *Raya became ha: as the main verb of 4a. but it becomes ha:t as the dependent verb (adjective) of 4b.

Stresemann (1918) implies a similar distinction in Paulohi. He cites penu *to be full* and penuti 'adjective' (cf. PAN *penuq); mina *to be greasy* and minati 'adjective' (cf. PAN *mipak) and; ata *to be long* and atatate (with reduplication) 'adjective' (cf. PAN *a(n)tas). My own field notes clarify Stresemann's use of

'adjective'. In 1978 I recorded *ata long* but *kata atati long pants*. Clearly as an independent verb no postposed *t* occurs, but in a noun phrase (where *ata* is a dependent verb) *t* is obligatorily postposed, just as in Buru and Asilulu.

Evidence which suggests that *t* or *te/ti* is a suffix which marks clause final dependent verbs is found in at least three descendants of PCM — all of which are quite distantly related. Even more widespread is the occurrence of *-t(e)* in nominalisations.

In Asilulu we note the following derivations:

PAN	*timba	tipa	<i>draw water</i>	tatipat	<i>bucket</i>
	*bærkəs	heke	<i>fasten</i>	haheket	<i>knot</i>
	*inəm	ninu	<i>drink</i>	wail naninut	<i>drinking water</i>
	*taŋuy	nanu	<i>swim</i>	karanulu nananut	<i>swimming float</i>

Similarly, where PAN cognates are not known:

lepa	<i>speak</i>	tuka lalepat	<i>interpreter</i>
loi	<i>dance</i>	laloit	<i>a traditional dance</i>
ha?u	<i>strike</i>	haha?ut	<i>a blow</i>
wai	<i>twist</i>	wawait	<i>spindle (for rope)</i>
kulu	<i>snag</i>	kakulut	<i>crook</i>
tihi	<i>fly</i>	kapal rarihut	<i>airplane</i> (Based on 3sg [-hum] form.)

This morphosyntactic process is very productive. Borrowed words also display suffixed *-t*. For example, *sewa rent* (from Malay) becomes *luma sasewat rented house*.

Stresemann (1918:31) cited similar forms in Paulohi.

tunu	<i>shoot</i>	tatunute	<i>the wounded</i>
sole	<i>ensnare</i>	a-sasotele	<i>snare</i>
hiri	<i>to fan</i>	hihirite	<i>a fan</i>

Other descendants of Proto-Piru Bay display similar entries. In Kaitetu we find *sisi scrape* and *sasisit spatula*; *tue sit*; *tatuet a low bench* and; *tope knock down (fruit)* and *tatopet pole for knocking down (fruit)*. In Luhu there are *ue scrape sago pith* and *aute adze-like tool for scraping sago pith*; *tete chop up* and *tetetet chopping board (for shredding sago pith)* and *pele obstruct* and *pampelete* (unexplained prenasalisation) *board which regulates water flow in sago-processing device*.

In these four languages (Asilulu, Paulohi, Kaitetu and Luhu) reduplication of the first element of the verb and suffixation of *-t(e)* results in the creation of instrumental nominalisations (e.g. object with which scraping takes place) or locative nominalisations (e.g. object at which drinking takes place). Latu displays similar occurrences of nominalisation. The details of the process are slightly different; for example, *sosa rub vigorously* and *sososato a brush*; *tuo sit* and *tutuoto kitchen stool* and; *na?i place under* and *nana?ito wedge*.

In Latu reduplication was slightly different: $\#C_1V_1 \rightarrow C_1V_1C_1V_1$; whereas in the other four languages $\#C_1V_1 \rightarrow C_1aC_1V_1$. Note, too, that Latu *-to* compels us to reconstruct the grammatical marker with a central vowel, that is PCM ***-tə*.³³

In a few words some of these languages display haplology. In Kaitetu, for example we note **bærkəs fasten* > *he?et bundle* (from **hahe?et*); in Asilulu there is **sinaR* > *sinat sunray* (from **sasinat*) beside *a-rina shine*. Other languages, however, display no evidence of earlier reduplication. Apparently suffixation of *t* occurred independent of reduplication. In Murnaten we note *sisi scrape*

and *sisite spatula*, *silu to scoop* and *silute spoon*. The following entries are from Buru (Devin 1978a; Hendriks 1897).

mtua	<i>old, aged</i>	basa	<i>pungent</i>
mtuat	<i>elder</i>	basat	<i>red pepper</i>
bae	<i>flood, overwhelm</i>	fila-k	<i>frighten by a sudden move</i>
baet	<i>tidal pool</i>	filat	<i>lightning</i>

With these words we should probably place *ŋa:t* *office-holder, government servant* (Hendriks 1897:75). Presumably this was formed from a verbal form of PAN **ŋajan name*; that is **ŋa:* becomes *ŋa:t*. Compare to *ŋa:n name*.

Devin (1978b) writes about another nominalisation in Buru which also involves *t*. 'Some nouns are created from verb stems by employing the *en-* prefix, together with the *-n* or *-t* ending. For example, *empai sore, painful* and *empait pain, soreness*.'

Citing evidence from Buru, Alune, Saparua (Latu), Paulohi, Kaitetu, Luhu and Asilulu, we have noted the occurrence of *t* in dependent verbs and nominalisations. In a syntactic sense these two constructions are quite similar. In both cases a verbal is made a dependent of another element. In relative (adjectival) clauses the head noun is expressed; in nominalisations it is understood ('that which'). Compare this to the participial-like constructions in entries for 'airplane', 'interpreter' and 'swimming float'. It is no wonder that a single grammatical marker is used in these constructions.³⁴

Fox (1968:vi) has interpreted Jonker's remarks about a similar morphosyntactic process in certain dialects of Roti.

The significance of final consonants, particularly the metathesized *k* is a complex problem which Jonker (1906) has only partially elucidated. In brief, most Rotinese nouns in the abstract (in the dialect of Termanu) end in a final *k* or are modified by an adjective or compound that must end in a *k*. Thus, the *k* or *ka* is roughly equivalent to a definite or indefinite article.

That this sort of process is not limited to Central Maluku languages is borne out by what is perhaps a related phenomenon in certain AN languages of New Guinea. Milke (1965:330) writes:

The Markham valley group just discussed exhibits a grammatical feature which is termed 'participle' by Dempwolff in his study of Azira but which really is a sentence-final form of the verb. The distinction of sentence-medial and final forms is reminiscent of similar distinctions in many 'Papuan' languages of New Guinea.

It is difficult to interpret Milke's remarks and the study by Dempwolff to which he refers exists only in manuscript form at Hamburg. Nonetheless it is not unlikely that these Aziran participles are similar to the morphosyntactic process presented here. In both Termanu and Aziran there are grammatical devices to indicate dependence. Perhaps more to the point is an apparent grammatical process in Popalia, an AN language spoken in southeast Sulawesi. Note:

tana	<i>say</i>	maga	<i>eat</i>	moro?u	<i>drink</i>
tetana	<i>language</i>	temaga?a	<i>eating place</i>	temoro?uka	<i>cup</i>

These entries suggest that prefixation of *te-* in Popalia results in locative nominalisation.³⁵

It is not the intention here to explore further the implications of the occurrence of **-tə* in Central Maluku languages and *te-* in Popalia.³⁶ The chief concern here is simply to document the existence of *te* as a nominalising marker in various AN languages.³⁷ Other AN languages display grammatical constructions which closely parallel the use of **-tə* in many Central Maluku languages as described here. The occurrence of *-t(e)/-to* in these languages, while not an inherited reflex of some PAN word final sound, still is not an irregular reflex. Instead it is the predicted suffix of a familiar morphological process of nominalisation.

4. A concluding remark

In this chapter three grammatical topics were considered. Certainly much more remains to be said regarding these topics and PCM grammar in general. The purpose of the preceding brief exposition was to explain the mechanics of three morphosyntactic processes so that the phonetic alterations which occur because of them will not distract from the inherited sound changes which are the chief target of the linguistic analysis attempted in the following pages.

Nonetheless a few comments about the value of two of Stresemann's grammatical innovations (as cited on the first page of this chapter) are in order. First, the split of nouns into two categories is not an innovation confined to the languages which Stresemann included in his 'Ur-Ambon'. Many of the languages of Maluku and apparently most of the Oceanic languages share this same innovation. It is not in any sense a diagnostic innovation of the restricted 'Ur-Ambon' group.

The development of verbal conjugations, which proceeded from a pronominal marking system as is assumed here, was not as widespread as the categorical split of nouns. Still it was an innovation which was not limited to 'Ur-Ambon'. It occurs in a number of languages which Stresemann specifically excluded from 'Ur-Ambon', namely Eli-Elat, Seran-Laut and Kisar. Apparently, too, Stresemann disregarded the data which Jonker (1910-11) presented demonstrating its importance in the languages of southwest Maluku.³⁸

We conclude that while these two grammatical innovations may distinguish the languages of Central Maluku from PAN, they do not distinguish those languages from numerous other descendants of PAN. To what extent the several occurrences of surface-level referential markers in the languages of Central Maluku and elsewhere may provide evidence of higher level subgroupings remains to be seen. It may indeed prove true that archaic morphological innovations are "the ultimate test of relationship" (Markey 1976) but enquiries to uncover such innovations can only proceed from a broad base of accumulated data and analysis. Such a firm foundation has not yet been laid in PAN studies.

CHAPTER IV

THREE RIVERS AND ALL THE BRANCHES

Until the early part of the twentieth century the mountain people of western Seram maintained a fierce independence which only the modern weapons of the first world war and intensive occupation by colonial troops could subdue. It is no wonder, then, that these mountain languages were poorly understood by the earliest authors.³⁹ Numerous names were used in inexact ways to label these languages; they included 'Alfuren', 'Sapalewa', 'Makabala' and others. The most troublesome is 'Alfuren' which is a rather derogatory term referring to any unacculturated people and their language. Only by examining the words of a given vocabulary can one determine which language was studied by an earlier author.

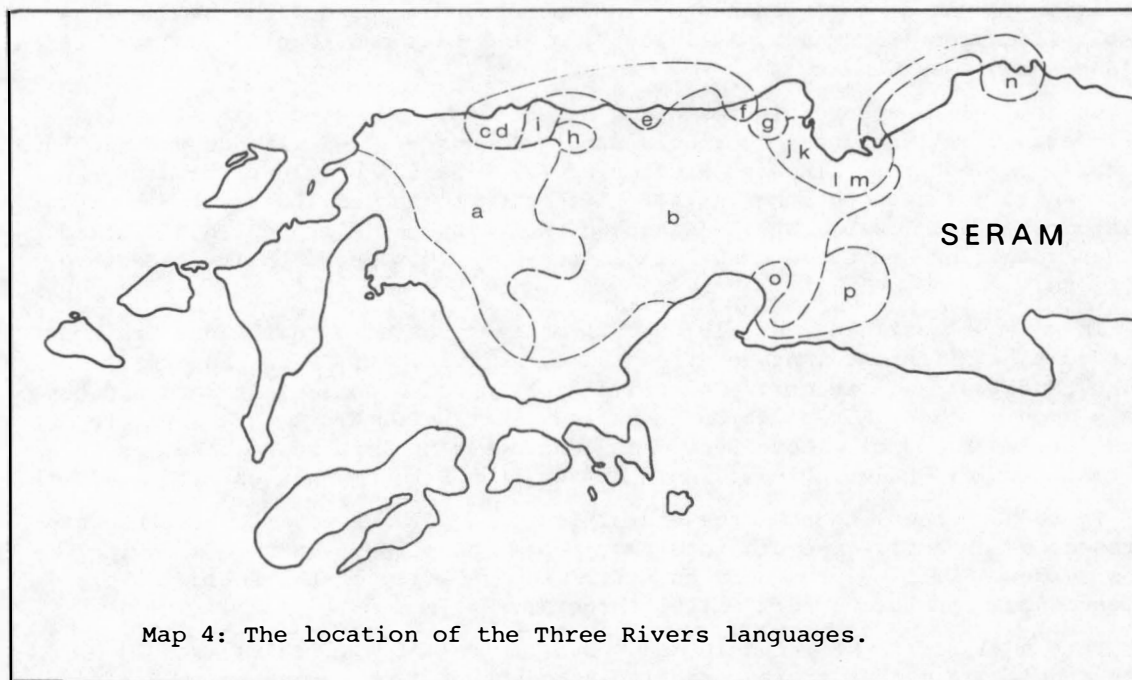
In this chapter we will consider the mountain languages of western Seram and their closest relatives along the north coast of Seram. Here, following Niggemeyer (1952), the term Alune is used to refer to the language spoken in the westernmost interior of Seram, named 'Sapalewa' by Stresemann (1927). Proto-Alune refers to the proto-language reflected by the numerous Alune dialects. Proto-Northwest Seram is the ancestral language of Proto-Alune and numerous other languages on Seram's north coast. Amalumute refers to the ancestral language of Proto-Northwest Seram and Atamanu, which is now spoken in south central Seram. Amalumute's closest relative is Wemale, a language spoken in several small hamlets somewhat to the east of Alune villages. The proto-language of Wemale and Amalumute is Three Rivers. It is a major subgroup of Nunusaku, the proto-language of western and central Seram.

In the following pages, the discussion is divided into four sections. First, a brief statement of the analyses of earlier authors regarding subgrouping and characteristic innovations of Alune is presented. By contrast a detailed tree of Three Rivers is proposed. The following three sections present arguments which justify that genetic classification. In consecutive order, the topics considered are secondary diphthongs in Proto-Northwest Seram, the treatment of PAN *aw in Proto-Alune and closely related languages and, finally, certain sound changes in Amalumute and Wemale, in particular the treatment of PAN *nt, *nd and *ns.

1. Classifying the languages of Three Rivers

Like the nineteenth century writers,⁴⁰ Sierevelt (1920) did not attempt subgrouping or classifying Alune with respect to other languages of the area. He did, however, list all the villages where Alune was the indigenous language

(1920:1). They were: Kawa, Murnaten, Latuhelu, Nikulukan, Wakolo, Patahue, Buria, Uwit, Laturake, Latusalene, Lohia-Sapalewa, Riring, Rumasoal, Neniari, Popela, Lumoli, Murikau, Laiuwi, Malilia, Nurue, Lohia-Tala, Manusa-Manue, Rumberu, Rumbatu, Hukukecil, Hukuanakota and Watui. He also included a few disconnected observations about dialect differences.



a	Alune	i	Naka'ela
b	Wemale	j	Pasanea
c	Lisabata Barat	k	Saleman
d	Noniali	l	Sawai
e	Sukaraja	m	Besi
f	Lisabata Timur	n	Wahai
g	Loun	o	Awaiya
h	Hulung	p	Yalahatan-Haruru
c-d-e-f	Iha (Lisabata-Noniali)		
j-k-l-m-n	Saleman Bay (Sawai)		
o-p	Atamanu		
a-i	Ulat Inai		
a-c-d-e-			
f-g-h-i-			
h-k-l-m-n	Proto-Northwest Seram		

Details regarding the location of Amalumute and Wemale villages are found on Map 5 and 6 respectively. None of these figures takes into consideration the recent movement of all these populations to the coast. Sometimes these movements were at the behest of the government; other times they appear to be the result of pressures from more numerous ethnic groups, c.f. the Atamanu squeezed between the Wemale and the Nuaulu.

Tauern (1928:1002), while noting numerous distinctive peculiarities of Alune and Wemale, claimed that both belonged to a West Seram language group which also included Lisabata, Loun and Eti. This group he distinguished from languages further to the east.

Stresemann (1927:8) was more precise in his opinions about the position of Alune and other languages of West Seram. He proposed a subgroup which he called 'Sub-Ambon'. One of the branches of this subgroup included Alune and several coastal languages (Batumerah, Asilulu, Piru, Lisabata and Loun). Another branch of 'Sub-Ambon' was Wemale.

Esser (1963), apparently following Stresemann, suggested that Alune and other West Seram languages might be a single language. No evidence was provided for this speculation. Likewise Niggemeyer (1952:52-53) simply reiterated Stresemann's position on subgrouping. Referring to Jensen (1948:20) Niggemeyer insisted that Watui was a Wemale language, not Alune as Sierevelt had claimed. Neither author presented relevant linguistic data to support their respective positions.

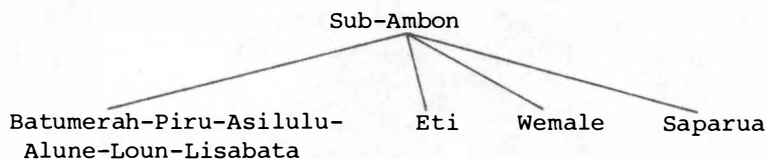
In a recent article Dyen (1978b:392) noted in passing that Alune "is best regarded as a different language from" Hila, Asilulu, Eti, Piru, Saparua, Haruku, Nusaluat and Paulohi. Chlenov (1976) included Wemale, Atamanu and Sepa in a branch of 'West Seram' which he called 'Central'. Alune is a separate branch of 'West Seram'. Both Dyen's and Chlenov's positions are based on lexicostatistical calculations. Both differ from Stresemann's earlier analysis.

There have been, then, three classifications of some detail. If they are represented in family tree diagrams they appear as below. In the following pages evidence will be presented to affirm the validity of the following classification of a subgroup here called Three Rivers.

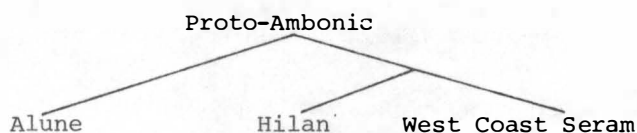
This analysis is striking in many ways. First of all, it rejects Stresemann's claim that there is a single branch of 'Sub Ambon' which includes Alune and some descendants of Proto-Piru Bay (namely Asilulu, Batumerah and Piru). The position taken here is that Three Rivers includes Wemale and that this branch is no more closely related to Piru Bay than it is to other branches of Nunusaku. In that respect Dyen's passing opinion that Alune must be separated from Hilan and Coastal Seram is confirmed. The basis for that separation is considered in Chapters V and VI. As indicated here some evidence suggests that Amalumute may be more closely related to Wemale. This topic is taken up later in this chapter.

Figure 17: Three earlier classifications of the languages of Western Seram

1. Stresemann (1927):



2. Dyen (1978):



3. Chlenov (1976):

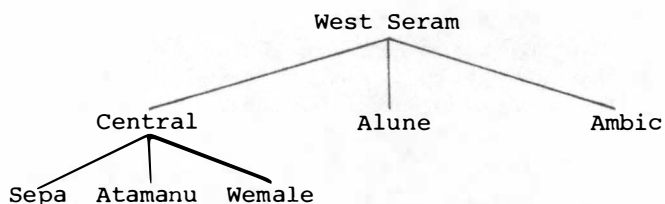
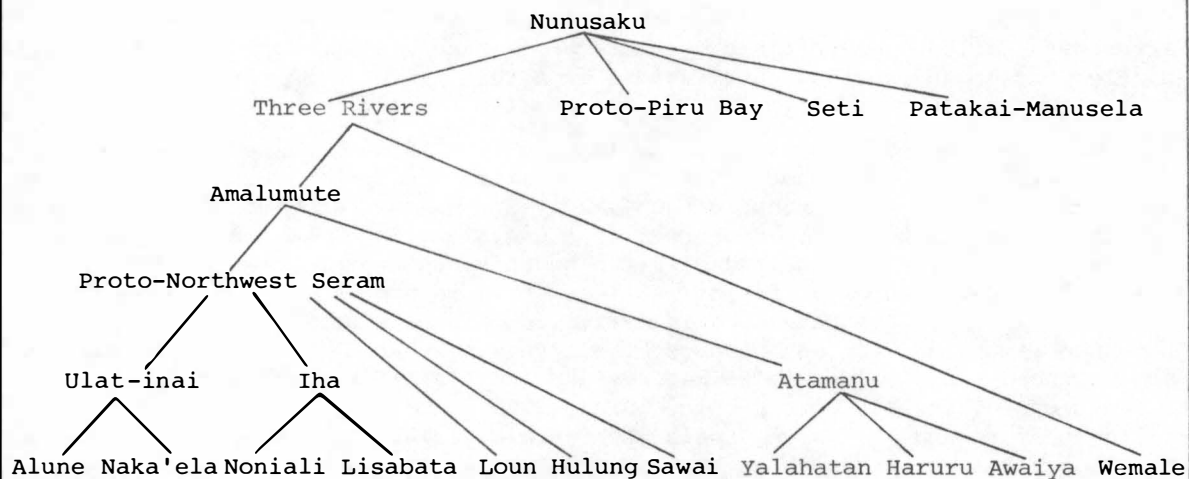


Figure 18: Subgrouping of Three Rivers



Secondly this tree diagram is striking because it supports and delineates Stresemann's concatenation of Alune and Loun and Lisabata. The nature of this interrelationship is specified in the following pages. The argument centers on the treatment of secondary diphthongs.

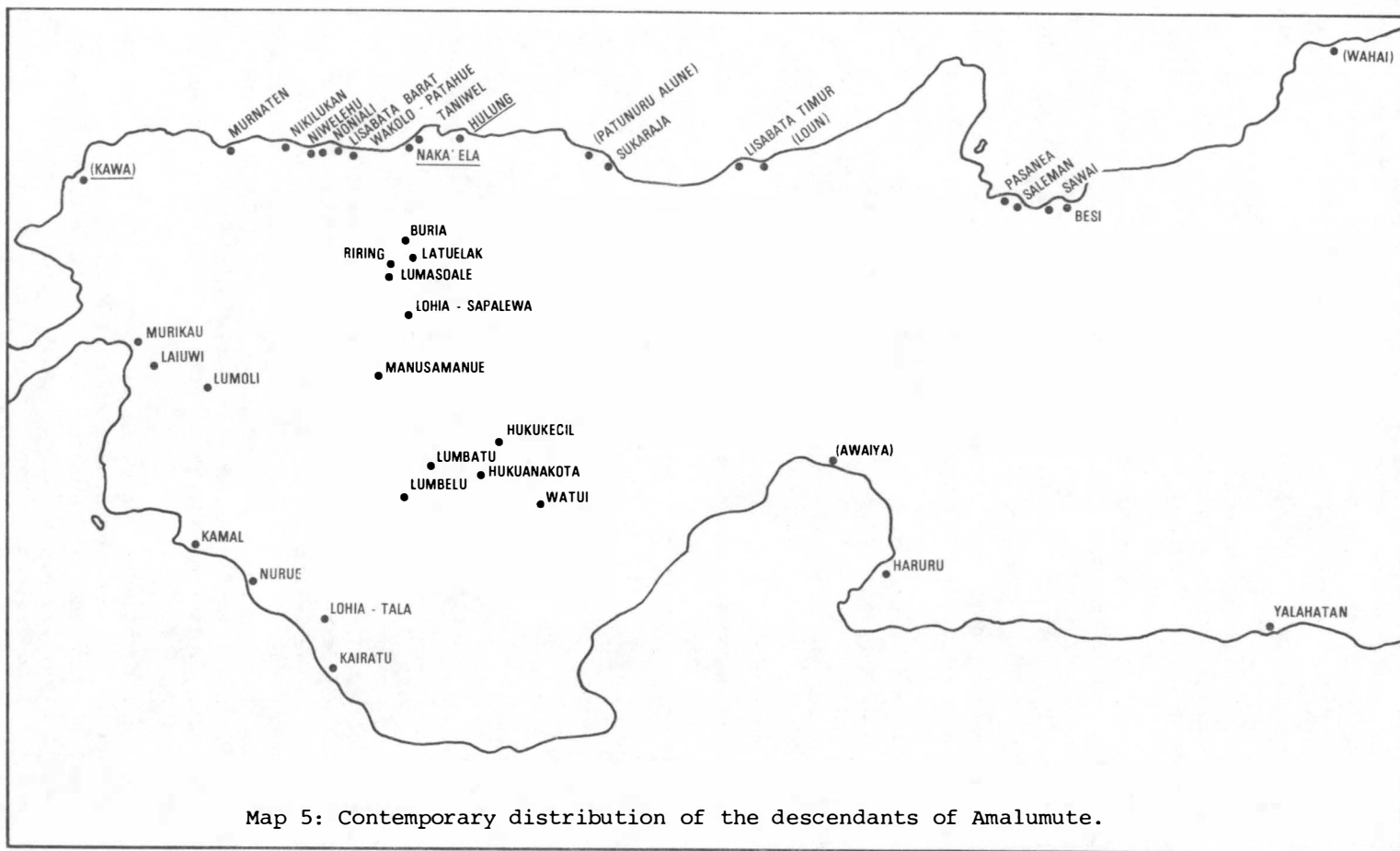
Thirdly, Watui is considered a dialect of Alune. More specifically, it is a Central Alune dialect. It is not, as Niggemeyer insisted, a Wemale language; Sierevelt's categorisation, though unsupported, was essentially correct. A number of late sound changes due to diffusion from nearby Wemale dialects have obscured Watui's position in the family tree.

Fourthly, although Stresemann did not mention Atamanu in his introduction, he treated it briefly in the discussion about reflexes of PAN *b (1927:57). Atamanu also appears in the map appended to his book. In both places it is clear that he considered Atamanu a 'Sub-Ambon' language. It is argued here that there are indications that Atamanu and Proto-Northwest Seram are descendants of a single proto-language, here called Amalumute. The geographic location of contemporary Atamanu speaking villages does not weaken the linguistic evidence presented in this chapter.

Fifthly, the family tree of Amalumute presented here provides information about the position of several unknown and little known languages. Two languages never before mentioned in the extant literature are treated here; they are Naka'ela and Hulung.⁴¹ Stresemann (1927:57) presented only eight words of Atamanu. These were apparently from the Haruru dialect; the Yalahatan dialect has never before been mentioned or described. Previous authors have overlooked the data in Wallace's 1869 wordlist of Awaiya. This now extinct language was an Atamanu language or a language very closely related to it.⁴² Although Tauern briefly described Saleman, Stresemann did not include any treatment of the Saleman Bay language. The dialect of Sawai, the most populous village of Saleman Bay, is included for consideration in this chapter.

Attempts at collecting the data essential to the proposed tree diagram here were not without problems. In Watui, Naka'ela (now part of Taniwel), Loun (now absorbed into Latea) and Hulung, it is a regrettable fact that in each of these villages only three or four speakers of the indigenous languages survive. Nonetheless, with the exception of Loun, these surviving speakers proved vigorous, confident and consistent informants throughout repeated elicitation sessions. Efforts to collect information about still one more language mentioned by Stresemann failed. No reliable speakers of 'Hatunuru-Alune' survive. Unfortunately Stresemann provided no citations from this language so no attempt at classification is possible.

Map 5, presented here, is notable in that some languages identified as descendants of Proto-Northwest Seram or Amalumute are spoken far from the apparent center of this branch of Nunusaku. The historical facts are not completely understood. The dispersal of the Atamanu language (Haruru, Awaiya and Yalahatan) may be connected with the seventeenth and eighteenth century colonial expeditions of attrition; at least this is implied in local oral traditions.⁴³ The Lisabata speaking villages (Lisabata Barat, Sukaraja and Lisabata Timur) as well as, perhaps, their seemingly ancillary villages (Loun and Hatunuru-Alune) are said to be far-flung because of the ancient military expeditions of the Lisabata people. Since 1965 a number of Alune-speaking villages (for example, Nurue, Lohia, Lohia-Tala, Kamal) have resettled on the coast; several others (such as Murikau and Lumoli) have moved much closer to the coast.

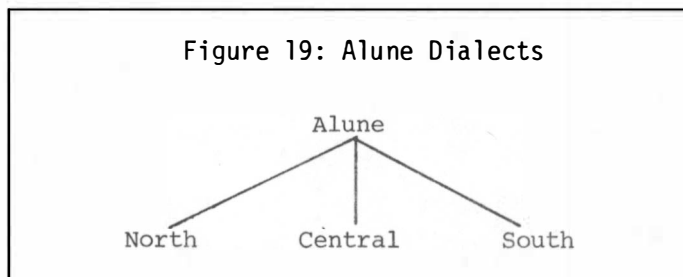


The most numerous descendants of Three Rivers are Wemale and Alune. A more detailed map of Wemale is presented later in this chapter (Map 6). There appear to be several distinct dialects of Wemale; see texts collected by Tauern (1928: 1008-1018). Some features of the Tala River basin dialect and the Northeast coast dialect are discussed in section four of this chapter.

The most numerous member of Amalumute is the Alune language. A detailed dialect study of this language is not included here. Although I collected wordlists and recorded texts in thirteen of the twenty or twenty-one extant Alune speaking villages, only an approximate classification into three dialect groups is presented here. This rough classification is offered partly to dismiss further references to a spurious dialect which Stresemann called 'West Sapalewa'. Chlenov (1976) used the term, apparently following Stresemann. This so-called dialect is largely based on Ludeking's error-ridden transcription of Murnaten. Contemporary Murnaten differs in most details from this dubious 'West Sapalewa' which may reflect Kairatu. Given the confused state of the data, this chapter rejects the Ludeking material.

It is important to note that previous authors excluded Kairatu from the list of Alune dialects. This oversight is baffling. Although it has distinctively changed **l* to *r* and innovated by palatalisation of some stops as well as by shifting **a* to *e* in prepenultimate syllables, Kairatu is a clear Alune dialect. I can only suppose that because it has been located on the coast for perhaps a century and it was one of the first Alune villages to embrace Christianity, earlier authors, interested in military conquest, further conversions or 'tribal' ethnographies overlooked Kairatu, already pacified, baptised and acculturated.

The dialect grouping proposed here is the following:



The North dialects preserve **k* while Central dialects shifted **k* to *ʔ*. Kairatu (South dialect) retained **k* as *k* but underwent the innovations noted above. Some North dialects have retained the *k*- conjugation while this was lost in the other two dialects. The respective treatments of PAN **nt*, **nd* and **ns* are taken up in section four. Within the North dialect, Hukuanakota and Hukukecil display a number of distinctive vocabulary items and sporadic loss of intervocalic **l*. Both of these may be due to diffusion from Wemale dialects spoken nearby. In the Central dialect, Watui similarly displays innovations which appear to be due to borrowing from Wemale.

The north dialect includes Nurue, Kamal, Lumoli, Laiuwin, Murikau, Kawa, Murnaten, Nikulukan, Niwelehu, Wakolo-Patahue, Buria, Lumasol, Riring and Latuelak as well as Hukukecil and Hukuanakota. Central Alune dialects are Lohia-Sapalewa, Lohia-Tala, Manusamanue, Lumbatu, Lumbelu and Watui. Kairatu is the only South Alune dialect. There may have been more dialects. Nineteenth

century intervillage feuds, the Dutch invasion, the 1918 influenza epidemic, postindependence political upheavals and guerilla warfare have all considerably reduced the Alune-speaking population.

2. Subgrouping of TR, Part I: secondary diphthongs

In discussing Alune dialects previous authors noted retention of PAN *b as b, loss of PAN *p, the shift of PAN *w to kw and some dialectal innovations with regard to PAN *nt, *nd and *ns. Sadly no-one took note of what is most important to classifying the languages of western Seram: the treatment of diphthongs arising from the loss of intervocalic *q and *S. In addition to providing a sound basis for classifying languages of the region, innovations in these vowel sequences provide information about the ordering of other sound changes.

In Alune there are two PAN cognates displaying unusual diphthongs, apparently resulting from sound changes which followed the loss of intervocalic consonants. Note:

PAN *(dD)aSun *leaf* > loin (< **laun)
 *baSu *odour* > boi-ni (< **bau-ni)

Both entries reflect loss of intervocalic consonants *q or *S. The resulting juxtaposed vowels shifted: *a > o and *u > i. This peculiar and highly distinctive innovation might be called roundness shifting. Each vowel shifted to the vowel closest in height but with opposite rounding, perhaps through misphasing of rounding.

This innovation was not limited to only these two entries. A number of Proto-Central Maluku words also underwent loss of *q and subsequent roundness shifting of the resulting diphthong. Compare the following entries from various Alune dialects and Asilulu, a descendant of Proto-Piru Bay, which is conservative in this respect.

Asilulu taun *full, packed tight*
 Alune manu toini *chicken flock*
 kwali toini *cousins, relations*
 hena toin *the whole village*
 PCM **ta(q)un *complete, full*⁴⁴

Asilulu mau(t) *small*
 Alune meku moite *a kind of rattan*
 moite *a vine with very small leaves*
 PCM **ma(q)u(t) *small*

Asilulu pau tolik *drive out* (Note toli *expel*)
 Alune poie *blow out, wipe away* (mucus)
 meite lilipoi *water spout, whirlwind* (sea, spin+expel)
 PCM **mba(q)u *expel, remove*

Asilulu kaul *a kind of vine-like bamboo*
 Alune koine *a kind of fern, thick brown stem, leaves about seven inches long*
 PCM **nga(q)u(ln) *plant name*⁴⁵

Asilulu rau *red*
 Alune soi *areca nut*⁴⁶
 PCM ***(n)sa(q)u* *areca nut*

Asilulu sau *sew*
 Alune⁴⁷ soit nai *conical container made by bending a large leaf into
 a cone and then piercing the ends together with short bamboo
 pegs*
 PCM ***sa(q)u* *sew* (Compare to PAN **sa(r)u* *comb, tattoo needle?*)

There is one comparison between Alune and Boano, another descendant of Proto-Piru Bay.

Boano⁴⁸ tuhaute *wedge*
 Alune boi *split wood with a wedge*
 PCM ***ba(q)u* *split wood with a wedge*

The distinctive Alune innovation, rounding shift, was not limited to only two words. Nonetheless *au* still appears in Alune as reflex of the secondary diphthong **au*.

PAN * <i>Xapuy</i>	<i>fire</i>	<i>au</i> ^{we} <i>fire</i>
* <i>bakun</i>	<i>a plant</i>	<i>baune</i> <i>plant whose fibre is used for thread</i>
* <i>ma-paku</i>	<i>roast</i>	<i>pau</i> <i>roasted sago bread</i>

The shift of ***au* to *oi* did not occur in these three words. Comparative evidence shows that the *au* diphthongs are not old but also the result of the loss of intervocalic consonants. But in these cases the lost consonants were *-*p*- and *-*k*-. The difference in the treatment of the resulting diphthongs allows us to reconstruct the chronology of these changes. The rounding shift took place after the loss of **q* and **S* but before the loss of intervocalic **p* and **k*.

If this is true we can reconstruct *-*aku* or *-*apu* wherever *au* appears in Alune. Consequently, Alune tau *mixing bowl for sago gruel* reflects ***ta(k,p)u* and Alune tauli *bride-giving side in marriage arrangements* reflects ***ta(k,p)uli*. Reference to other Nunusaku languages substantiates this claim. These reconstructions are confirmed and disambiguated by Asilulu where **p* > Ø but **k* > ?. In Asilulu we find *ta[?]u* and *ta[?]uli* with meaning as above. So we reconstruct PCM ***taku* and ***takuli*.

There remain, however, some problematic forms. All Alune dialects agree in displaying **Zauq* > *laukwe* *far* and **laSuD* > *lau* *sea, seawards*. Nurue also displays *apate* *au*^{we} and *au* *hena* *wild mango*, apparently from PAN **paSuq*.⁴⁹ In all these cases **au* fails to become *oi*. We have already noted that the rounding shift was part of a sequence of ordered sound changes. Now it is apparent from these three entries that it was also a conditioned sound change. Secondary diphthong **au* became *oi* only in open syllables, that is in syllables ending in zero or a continuant. In closed syllables no rounding shift occurred (**Zauq*, **laSuD*, **paSuq*). We already know that the rounding shift occurred before loss of intervocalic **k*. (Note: **bakun* > *baune* *a plant*.) Judging from the form in Nurue the sound change took place before the loss of final **k* as well. Furthermore loss of **D* in **laSuD* and **q* in **Zauq* must have occurred after the rounding shift.

This leads us to greater precision in stating and ordering the sequence of historical sound changes in Proto-Alune.

1. *S > Ø
2. *q > Ø/V_V
3. *au > oi/_ ([+cont])#
4. *k > ? > Ø
5. *q > Ø
6. *p > ɸ > Ø
7. *D > Ø/_ #

The rounding shift also provides the basis for distinguishing languages which are closely related to Alune from those which are more distantly related. The shift of *au(n) to oi(n) is a diagnostic innovation. Consider the following data.

	*(dD)aSun <i>leaf</i>	*baSu <i>odour</i>	*saqu <i>areca</i>	*maqu <i>small</i>	*taquh <i>full</i>	*Zauq <i>far</i>	*laSuD <i>sea</i>	*paSuq <i>mango</i>
Alune	loin	boini	soi	moite	toin	laukwe	lau	au
Watui	loini	poini	soi	moite	(kenute)	lau	lau	-
Naka'ela	loini	-	(hua)	-	toini	lau	-	-
Lisabata	(ukui)	hoini	soi ⁵⁰	-	toini	nau	nau	oue?e
Loun	loini	-	(hua)	-	toin	lalaue	-	-
Hulung	loini	poini	soi	-	toini	a-lau	lau	au
Sawai	loin	haun	(hua)	-	toin	(jau)	lau	aun
Yalahatan	lain	haun	(hua)	mamaune	tauli	a-raue	mo-lou	hau pa?a
Haruru	raini	fauni	(hua)	mau	(penu)	a-raue	o-lou	hau pa?a
Awaiya	laini	-	-	-	-	-	lauhaha	-
Wemale	launi	pauni	da?ule	-	(kenu)	lau	-	(kate)
Asilulu	laun	haun	rau	mau	taun	lau	lau	-

Naka'ela, Lisabata, Loun and Hulung agree with Alune (including Watui) in uniformly displaying the rounding shift in all known relevant forms. In Sawai there is one exception to the sound change: hau-n *odour*; we would predict hoi-n. This exception is regarded as a loanword. There are many possible sources for this word. Sawai, with its fine harbour in all seasons and plentiful supply of sago, has long been a traditional destination of trading boats from Asilulu. Indeed many Sawai speakers also speak Asilulu. In Asilulu, as noted above, *baSu > haun. Furthermore all the indigenous languages near Sawai, namely Wemale, Pataakai and Manusela have not innovated by changing the roundness feature. Masihulan, a Wemale speaking village, is about three hundred meters from Sawai; they share the same schools. Manusela speakers from Huaulu in the interior have a long history of interaction with Sawai; their respective hereditary sago groves abut each other. The Pataakai speaking village of Luma'olat is only a half hour's dugout ride across a waveless cove. All three languages (Wemale, Pataakai and Manusela) display au; however, in none is there an initial h. In place of Masihulan p, Huaulu and Luma'olat f, Sawai speakers could have supplied h. At any rate Sawai borrowed the reflex of *baSu although the source or mechanism of borrowing is not clear.

The Atamanu entries are troublesome. In both Haruru and Yalahatan ai is the reflex of *aqu in *(dD)aSun. Wallace's entry for Awaiya shows the same vowel sequence. In Atamanu, then, *u fronted to i. If Proto-Northwest Seram and Atamanu are descendants of a single proto-language, we conclude that in this proto-language (Amalumute) after the loss of *S, *u shifted forward to *i.

In Atamanu the resulting diphthong ***aĩ* became *ai* thereby merging with *ai* from other sources. In PNWS ***aĩ* became ***əĩ* because of assimilation of **a* to the following central vowel. This unstable central vowel diphthong did not merge with *ai*; rather, ***ə*, in such diphthongs shifted to *o* yielding the contemporary reflex *oi*. That is:

PAN	<i>*aSu</i>	> TR	<i>au</i>	> Amalumute	<i>aĩ</i>	> Alune	<i>əĩ</i>	> <i>əi</i>	> <i>oi</i>	lain
	(<i>*(dD)aSun</i>)					Atamanu			> <i>ai</i>	lain
PAN	<i>*aqi</i>	> TR	<i>ai</i>	> Amalumute	<i>ai</i>	> Alune		> <i>ai</i>		tai
	(<i>*taqi</i>)					Atamanu		> <i>ai</i>		tai

In Atamanu there are three apparent exceptions to this generalisation. The reflexes of PAN **baSu* *odour* and PCM ***maqu* *small* contain *au* in both Haruru and Yalahatan. In Yalahatan *tauli* was recorded as a reflex of **taqun* *complete*.

The reflex of **taqun* in Yalahatan is regarded as a loanword. This word is restricted to only one dialect of Atamanu; Haruru does not display the word. Haya, a village immediately to the west of Yalahatan, speaks a Teluti dialect which includes *tau* *full*. The major Yalahatan informant during my fieldwork there spent most of his youth in Haya and Tehoru. In fact, he supplied *tauli* as an afterthought; his first choice was *penu*. The irregular reflex of **taqun*, then, is restricted to one dialect of Atamanu and perhaps to one speaker. It is regarded as a loanword from a Teluti dialect. (See Chapter VI.)

There remain, however, two other cases of exceptions to the generalisation that Atamanu displays *ai* as a reflex of **-aqu*. It is important to note that these two words differ from **DaSun* in one respect. Neither **baSu* nor ***maqu* are followed by the continuant **n*.⁵¹ This suggests that **u* assimilated to the following apical (front) nasal (**n*) and became **ĩ*. This was a distinctive innovation in Amalumute; this restricted environment is reflected today in Atamanu. In Proto-Northwest Seram, however, this sound change subsequently took place when **au* was followed by zero as well as **n*. A still later change dissimilated **a* to *o* in these sequences, as noted above.

If this analysis is accepted,⁵² we have uncovered the phonetic motivation for this unusual sound change in PNWS. In doing so we have established a basis for subgrouping the languages of western Seram including Atamanu. If we reject the analysis, the motivation for this peculiar innovation would remain unclear.

Another interpretation of the data suggests itself. Rather than propose a long series of phonetic adjustments as outlined above, the roundness shifting of Proto-Northwest Seram, ***au* > *oi*, is considered a case of misphasing of rounding. If one considers the vowels of each of these diphthongs, it is clear that the chief difference of one diphthong from the other is in its roundness feature; that is $\begin{bmatrix} -rd \\ -hi \end{bmatrix} \begin{bmatrix} +rd \\ +hi \end{bmatrix} (au)$ became $\begin{bmatrix} +rd \\ -hi \end{bmatrix} \begin{bmatrix} -rd \\ +hi \end{bmatrix} (oi)$. A later change pushed the *ĩ* to *i*.

Now, if **au* became *oi* in Proto-Northwest Seram through misphasing of rounding, then for two reasons Atamanu could not have been related closely to Proto-Northwest Seram. First, and most obviously, Atamanu does not display rounding; ***au* became *ai*. Second, the scope of the vowel change in each proto-language must have been different. The rounding shift affected ***au* in open syllables, that is in words ending in zero or a continuant. But the shift of ***au* to *ai* Atamanu affected only those words which ended in a continuant.

If we accept the interpretation that ***au* became *oi* through the misphasing of rounding we must assume that Atamanu is a separate branch of Nunusaku.

Furthermore because of the possible similarity in the scope of the sound change Sawai must be reconsidered. It may be more closely related to Atamanu.⁵³ In which case the value of the shift of **au to oi would require reassessment.

For the time being, however, we accept the earlier interpretation which suggests that Proto-Northwest Seram and Atamanu share a common ancestor Amalumute. There are too few words collected in Atamanu languages for complete certainty regarding the scope of the shift of **au to ai.

Another secondary vowel sequence occurs in Alune and other related languages.⁵⁴ This sequence, too, occurred after the loss of intervening consonants. Note the following examples from Alune.

PAN *taqi	<i>feces</i>	tai
*kaSiw	<i>wood</i>	ai
*ga(m)pit	<i>press together</i>	kai (and, to wed) ⁵⁵
*Daki	<i>body dirt</i>	lai

Apparently no vowel change took place in sequences of ai, although the loss of intervocalic consonants occurred at different stages in the development of Alune. There is, however, one occurrence of vowel change: *waSiR > kwele *water*. In this case, there was contraction of the secondary diphthong. In contrast *kaSiw > ai *wood*. We conclude that this contraction occurred only in closed syllables, that is in the word with final continuant *R.

This contraction of ai before continuant occurred in all Alune dialects including Watui; it also occurred in Naka'ela and Hulung. This suggests that these languages may be more closely related to each other than they are to other Proto-Alune descendants. The fact that Naka'ela shares another important innovation with Alune (outlined in the next section) indicates that Alune and Naka'ela are descended from a single proto-language: Ulat-inai. The case for Hulung is not so clear.

Hulung is a small village of about two hundred fifty inhabitants, very few of whom now speak Hulung. Many adults are bilingual speakers of Ambonese Malay and Wemale (which is spoken in the adjacent village of Kasie). Small traders from Buria and other Alune speaking villages visit Hulung to buy cured fish. The occurrence of wele in Hulung may be a loanword from Alune. In the following section we will note that Hulung fails to display another innovation which Alune, Naka'ela and other languages share. Tentatively, then, Hulung is not considered a descendant of Ulat-inai.

In conclusion it is important to note that the rounding shift and vowel sequence contraction are not the same sound change. While these two innovations affect similar vowel sequences, the scope of each rule is different. Furthermore we have traced a tentative history of the shift of *au to oi which excludes *ai. Nonetheless both these changes are innovations critical to classifying the descendants of Three Rivers.

3. Subgrouping of TR, Part II: PAN *aw, *uy and *w

In the preceding section the treatment of secondary diphthongs in Amalumute languages was considered in some detail. In this section our attention turns to PAN *aw. Before we can understand the treatment of this PAN diphthong in Alune, it is necessary to note the distinctive reflex of *w in this language.

The earliest recorders of Alune (Ludeking, van Ekris, Sierevelt) all correctly recorded the occurrence of kw for PAN *w. This distinctive innovation was first⁵⁶ commented on by Tauern (1929:953). He further stressed that this kw would be written 'qu' since its treatment differed from ku.⁵⁷ Apparently both Stresemann (1927:78) and Niggemeyer (1952:54) observe this convention. In these pages, however, kw is written as such. There is no good reason to introduce a symbol usually associated with another sound: PAN *q. Furthermore, previous writers apparently have overlooked the treatment of kw in dialects of Alune in which k from any source became ?. Note the following examples from Manusamanue.

PAN	*kampuŋ	*kə(d)əŋ	*təkən	*ma-baŋkaŋ	*waSiR	*siwa
	<i>belly</i>	<i>stand</i>	<i>pole</i>	<i>split apart</i>	<i>water</i>	<i>nine</i>
Manusa	?apu	?ele	to?ate	pa?a	?wele	si?wa

The fact that kw > ?w in Central Alune dialects demonstrates that the k of kw was treated just as any k. It would be clearly inaccurate to introduce 'qu', 'q' or 'q^u'.

As Tauern and others observed among the languages of Seram the innovative shift of PAN *w to kw is unique to Alune. Indeed, it is one of the strongest arguments for distinguishing Alune from other closely related languages. Esser's hope (1963:334) that Alune and the languages of Ambon island might form a single language founders on this innovation. Similarly Stresemann's 'Sub-Ambon' branch which included Alune and Asilulu (among others) would require considerable refinement to accommodate this innovation.

That it is an innovation is important to emphasise. Dyen (1962) asserted, in effect, that the appearance of kw in Alune is a retention of the PAN articulation of *w. He compared entries from Alune with words found in Lau (Solomon Islands) and Chamorro (Guam).

PAN		Alune	Lau ⁵⁸	Chamorro
*walu	<i>eight</i>	kwalu	qalu	gwalu
*waSiR	<i>water</i>	kwele	qai	-
*siwa	<i>nine</i>	sikwa	siqa	sigwa

He writes (1962:215);

Since Aloene and Lau are far apart both in distance and in probable classification, it is likely that some of what has hitherto been reconstructed as proto-Malayopolonesian was a labiovelar with an occlusive articulation such as might be represented by [k^w]. Otherwise we should have to regard the independent phonetic agreement as a convergence and the occlusive feature as independently acquired.

Dyen's remarks seem unlikely. The development of k in Alune's reflex of *w must be considered a late innovation. Similar developments in other Austronesian languages are independent innovations.

First of all, as Dyen himself noted, in Chamorro the appearance of gw also occurs in reflexes of PAN words which do not contain *w. This is not so in Alune.

PAN		Alune	Chamorro
*Xapuy	<i>fire</i>	au ^w e	gwafe
*aku	<i>lsg</i>	au	gwahu
*ikan	<i>fish</i>	iane	gwihan

This suggests that the scope and motivation of the Chamorro gw phenomenon differ from those of Alune kw.

Second, the occurrence of closure of the velar preceding [w] is not an unusual development in other linguistic families. Within Indo-European this phenomenon occurs in Welsh, Old French, Baluchi and Armenian (E. Hamp, personal communication), as well as some variants of Hispanic English (R.A. Blust, personal communication). Even among Maluku languages it is not unique to Alune. All but the northern languages of Aru (S.E. Maluku) display a similar development: $\emptyset > g/_u, w$.⁵⁹

In all the languages the appearance of [k] or [g] is apparently an anticipation of the velar feature of [w]. The Alune evidence, then, does not justify revision in the phonetic inventory of Proto-Austronesian. Rather we observe a consistent and important innovation in Alune.

Stresemann (1927:78) described the shift of *w to kw as a conditioned one. He observed that in at least three words, a predicted kw did not occur. Based on his reconstructions of 'Sub-Ambon' lexical items he noted:

'Sub-Ambon'	*uwa rattan	*kasawali cassowary	*luwa two
'E. Sapalewa'	wua	kahuwali	lua

Consequently he suggested that *w > kw/_a, e, i but *w > w, $\emptyset/_u, o$. There are problems with this interpretation. First, two of the words are not now reconstructed with PAN *w: *DuSa two and *kasua(d, r)i cassowary. It is not surprising then that sound changes effecting *w do not effect words in which *w did not occur.

The remaining form cited by Stresemann is also problematic. First, of the six Alune dialects from which I have collected this particular vocabulary item only two display a reflex of the PAN cognate. They are Kairatu and Murnaten, [wuwa] and [oa] respectively. In these forms we note that in addition to the irregular absence of kw, there is the unexpected change of *u to o in Murnaten. Similarly in Kairatu there is apparent metathesis. Or is it reduplication? Whatever it is, it is another irregularity.

Considering the number of irregularities, it is possible that in each dialect we have a loanword. It is probably no coincidence that both villages are among the oldest coastal settlements of Alune speaking people. Other Alune villages are still in the mountains or only settled along the coast within the last twenty years. Rattan is an important item of trade. It is not unlikely that the term for rattan was borrowed from a Piru Bay language, all of which reflect PAN *quway as [ua].

The number of irregularities as well as the fact that other Alune dialects do not even display the reflex suggest, then, that borrowing is involved.⁶⁰ There is, however, another interpretation possible. Tsuchida (1976:146-147) noted that Formosan evidence requires the reconstruction of a PAN sound which he labeled *W₂. It is reconstructed in only two words: *W₂aNak child and *q₃uW₂[aə]y rattan. If this reconstruction is a valid one, we note that in Alune *W₂aNak became ana. If the Kairatu and Murnaten forms [wuwa] and [oa] (respectively) are inherited reflexes of *q₃uW₂[aə]y, then we would not predict the appearance of kw because the reflex of *W₂ is a zero in Alune; only *w became kw in Alune.

Tentatively, we suppose that *w became kw without exception in Alune.

As mentioned above, Dyen and others have noted this characteristic peculiarity of Alune. An important part of this observation has, so far, been overlooked. A careful examination of occurrences of kw shows that not only did PAN *w become kw but, more significantly, the final element of the PAN diphthong *aw was retained (under certain circumstances) as kw as well.

Stresemann (1927:6) asserted that PAN *aw was "reduced" to a in the proto-language of Central Maluku (which he called "Ur-Ambon"). However, in some of his reconstructions Stresemann included parenthesised w's; for example "U.A. lina(w)", "U.A. veta(w)" and so forth.

Blust (1981:23) has already criticised Stresemann for this inconsistency. Furthermore he noted that Taliabo (Sula Islands) has a reflex of *aw which indicates late retention of the complete diphthong. We find that *aw > o in *bataw > foto *sibling of the opposite sex*, *kasaw > kaso *rafter* and *(t)a(ŋ)kaw > pakanako *steal*. We must assume the retention of *-w to account for the vowel quality.⁶¹ On other grounds Taliabo is closely related to Buru. Buru is a member of the Proto-Central Maluku family of languages; Taliabo, then, is also a PCM language. Because Taliabo retained a reflex of *-w the full PAN diphthong must be reconstructed for Proto-Central Maluku. Stresemann's assumption that *aw > a in the proto-language of Central Maluku must be rejected.

Evidence from Alune strengthens Blust's critique. When PAN *-aw was followed by **ə, *-aw+ə > akwe. The suffixation of **ə, noun-marker, occurred after nouns. PAN words with *-aw which were not nouns would not reflect *aw(+ə) as akwe. To his credit, Stresemann, did not fail to note one apparent case of this phenomenon (1927:139). Probably it was for this reason that he retained a parenthesised 'w' in his reconstructions. He did not, however, attempt to explain this seeming irregularity.

The words in question are

PAN		Alune
*kasaw	<i>rafter</i>	ʔasakwe
*labaw	<i>rat</i>	malaʔakwe ⁶²
*kalaw	<i>hornbill</i>	ʔalakwe

The noun marker **ə was postposed to each of these nouns at a time when *aw was still preserved in Alune. The noun-marker is now non-productive and permanently suffixed, thereby preserving the complete, non-truncated PAN diphthong. Verbs and verbals, of course, did not take a noun marker; hence they display loss of the final element of the proto-diphthong.

PAN		Kairatu
*babaw	<i>above</i>	lete baba
*linaw	<i>calm</i>	merina
*(t)a(ŋ)kaw	<i>steal</i>	mana ⁶³

Kinship terms likewise never appear with noun marker **ə; they are always personalised. Kinship terms are always suffixed by an inalienable possessive pronoun. This pronoun precludes the appearance of the noun marker **ə; so PAN *bataw > beta- *sibling of the opposite sex*.

In summary, then, a sequence of events suggests itself:

1. **ə is suffixed to certain nouns;
2. *w > Ø #
 > kw/ _ V

Among the descendants of Three Rivers, Alune is alone in displaying *w > kw; however, other closely related languages display the innovative suffixation of **-ə which led to the retention of *w in the PAN diphthong *aw. This retention of *aw in Alune and other Three Rivers languages means *aw must be reconstructed in the proto-language of Central Maluku.

In addition to Alune there are other descendants of Proto-Northwest Seram which display traces of this distinctive innovation, namely permanent suffixation of the noun marker *-ə at a time when *aw was still retained. As Blust has pointed out (1976:224) the loss of *w in *aw was part of the general loss of final consonants in Maluku. PAN *w in final position was treated as a consonant, not as a vowel. By suffixing **-ə, *-w was not subject to the loss of final consonants. This early permanent affixation of **-ə is regarded here as a distinctive innovation of a branch of Proto-Northwest Seram, namely Ulat-inai. The evidence is cited below. Watui, a Central Alune dialect, is included in order to represent other Alune dialects and at the same time provide more evidence that it is an Alune dialect as noted earlier. Two widespread Proto-Central Maluku forms are hereby reconstructed with final *-w on the basis of the Ulat-inai material.

			Watui	Naka'ela	Lisabata	Hulung
PAN	*kasaw	<i>rafter</i>	wasəʔwe	kwasake	asaʔa	asa
	*labaw	<i>rat</i>	maboʔe	malahawe	malaha	malapa
	*kalaw	<i>hornbill</i>	manu a:ʔwe	-	alauWe	manu ala
PCM	**sibaw	<i>marsupial</i> sp.	sibaʔwe	sihawe	-	sipa
	**nipaw	<i>snake</i> ⁶⁴	niaʔwe	niawe	nia	nia

Naka'ela, Alune's closest relative, never underwent the change of *w to kw. (Note *walu > walu *eight*, *siwa > siwa *nine*, etc.). Consequently, because of the innovative suffixing of **-ə, we find PAN *-aw clearly preserved in three of the four entries from Naka'ela. The entry for *kasaw is irregular in several ways including the loss of *-w; it is unexplained.

The Watui reflexes all display the Central Alune shift of **k to ʔ. We also note the loss of l between like vowels in reflexes of *(ma)labaw and *kalaw. This appears to be an areal feature of Alune and Wemale dialects spoken in the Tala River basin, probably originating in Wemale. In the reflex of *labaw a curious sound change took place. Between b and w, a became o with subsequent loss of w. That this did not take place in the reflex of *sibaw suggests that it may have been due to the long vowel (aa) resulting from the loss of l in the preceding syllable. Perhaps the sequence of events was similar to the following: *malabawe > maabakwe > mabaʔwe > maboʔwe > maboʔe. At any rate the otherwise unexpected appearance of o indicates late retention of *w.

One of the entries from Lisabata, *kalaw > alauWe *hornbill*, suggests retention of *-aw. Three other words, however, display loss of *-aw, even when an apparent noun marker (a) follows as in asaʔa *rafter*. Although it is unlikely that Lisabata could have borrowed this word from an Alune dialect because all nearby Alune dialects preserve k (from *w), it is possible that Lisabata borrowed this term from Naka'ela in which no excrescent k developed. Unfortunately there is no way to confirm this possibility because the Naka'ela reflex was not elicited.

In view of the number of words which display zero as the reflex of *w (from *-aw) tentatively we conclude that Lisabata did not share the innovative suffixation of **-ə 'noun-marker' which characterises the Ulatinai languages, namely

Proto-Alune and Naka'ela. It should also be noted that the hornbill is a creature of the deep forest, seldom seen on or near the coast. The Lisabata-speaking people rarely venture into the interior. It is not unlikely that this term could have been borrowed from people more accustomed to excursions inland.

Hulung which uniformly displays the loss of *-w in all available reflexes is apparently not an Ulat-inai language. Hulung, a Christian village, was not likely to have had close contacts with Lisabata or other Muslim villages. Its closest association is with Kasie but in Kasie the relevant forms are yasa, ma:pa, manu a:, sipa and niha, only one of which is a possible source for borrowing. Since there are no likely source languages for borrowing, we conclude that Hulung lost *-w because it did not share the innovation suffixation of **~ə common in Ulatinai languages. If Hulung is not an Ulatinai language, it cannot be more closely associated with Alune. So although Hulung displays the sandhi-like contraction of ai in *waSir > wele, this must be considered a loan-word from Alune not a shared innovation.

At this point there remains the need for some further clarification of the appearance of -kwe in Alune. In the preceding paragraphs we observed that PAN *w became kw in Alune. This sound change affected *w in the PAN diphthong *-aw as well because this *w had been retained due to the innovative suffixation of *-ə. The shift of *w to kw affected all cases of *w wherever it was retained.

Evidence indicates that there are, in fact, other sources of kw. We note the occurrence of forms like belukwe *new* from PAN *baqəRu. Apparently the suffixing of *-ə to **belu led to an excrescent intervocalic glide. This glide was treated in the same way as other w's: *baqəRu > belu+ə > beluWe > belukwe. In at least one other case -u+e resulted in the glide [w] which became kw; compare Alune nanukwe and Asilulu nalu *long*.⁶⁵

The generalisation that **w became kw also holds true for the prefixation of u- to verbs with initial vowels in certain inflectional forms. In the preceding chapter we observed that the proto-language of East Central Maluku had a verbal conjugation in which k alternated with zero. Previous authors overlooked evidence which points to the retention of that k- conjugation in Alune.

Tauern's brief grammatical notes do not mention this phenomenon and there is only a hint of it in Sierevelt (1920:81). Niggemeyer passes over this evidence in his sketch of Alune grammar. He discusses pronominal marking of verbs under the heading "Konjugation" but under "Das Geschlecht" he fails to interpret a clear indication of the k- conjugation.

He cites the pronominal marker indicating neuter plural agents as u-. When this appears with verbs whose initial sound is k, that verb changes its form from kV... to kwV... . For example, busa *go out* and ubusa *they* (-human) *go out* but kane *eat* and (e)-kwane *they* (-human) *eat* as well as sikane *they* (+human) *eat*.

This phenomenon is clearly an indication of inflectional marking. The shape of the verb is altered to indicate a change in the person of the agent. When the third person non-human marker, u-, appears before a vowel it becomes w but in Alune as we have noted above all w's from whatever source became kw. So, although si+kane became sikane, u+tane > wane > kwane.

In the East Central Maluku verbal paradigm of the k- conjugation it is precisely the alternation of *k and Ø which forms the basis of the inflectional variation. The interpretation presented here of forms such as kwane implies an earlier initial form and, therefore, the k- conjugation.

This interpretation is strengthened by a complete verbal paradigm which I collected in Riring. It is critical to compare *au kwete I bite* and *akete You bite*. Again what appears at first glance to be the infixation of *w* is most simply explained as an active variation of PECM *kete/ete* based on inflectional principles; in other words **u+ete* became **wete* and then *kwete*.

Reanalysing Niggemeyer's comments and Sierevelt's data and comparing them to material collected in Riring, Hukuanakota and Nurue as well as reconstructed PECM inflectional systems has resulted in properly observing still one more case in which **w* from whatever source became *kw* in Alune. There appears to be yet one more source of *kw*.

Niggemeyer (1952:59) noted a number of cases in which *-kwe* "is most likely a (dialectal?) development of *-ke*", a verbal suffix. Often verbs ending in *kwe* appear beside forms ending in *ke* with no apparent difference in meaning. He cites *lema-kwe/lemake to cheat*; *susukwe/susuke to stab*; *totolakwe/totolake to screech*. In support of this my own fieldnotes contain the entry *arakwe distilled palm wine*, apparently a loanword from Malay *arak distilled spirits*. This suggests that the velar consonant followed by the (non-front) schwa resulted in the development of a transitional [w]. The presumed sequence of events is as follows **-kə# > -k^wə > -kwe*.

That the scope of this innovation was perhaps broader is suggested by the following:

PAN	<i>*daRəq</i>	<i>blood</i>	<i>lalakwe</i>
	<i>*Zauq</i>	<i>far</i>	<i>laukwe</i>
	<i>*taRuq</i>	<i>put</i>	<i>talukwe</i>

All three Alune words are reflexes of PAN words which contain final **q*. In the case of both *laukwe* and *talukwe* it might be objected that both display final *u* but we know on other grounds that in Alune **-q* was retained until rather late in the reflex of **Zauq*. (See section 2.) Furthermore when we consider *lalakwe* (from **daRəq*) there seems to be no other conditioning factor than the final **-q*.

If we assume that **-q* was retained in Alune, possibly as an uvular stop, then the scope of the sound change which resulted in the development of *kwe* from **ke* was more general. All non-coronal occlusives (*k* or *q*) followed by **-ə* became *kwe*. There were, then, several sources for the distinctive appearance of *kw* in Alune. The most striking source is the final element in the PAN diphthong **aw*. Stresemann claimed that PAN **aw* became *a* but we know that this was not the case. It is appropriate to consider here Stresemann's opinion regarding possible retention of PAN **uy* in Alune.

He noted (1927:139) that the reflex of PAN **Xapuy fire* is *auē*. He implied that this final *e* is a possible reflex of **-y* (the final element of PAN **-uy*). Based on the number of cases in which we have noted the suffixation of the noun-marker **-ə*, we conclude that *e* in *auē* is not a reflex of **-y*; it is simply the post-posed noun marker. Nonetheless this form is striking because it suggests the retention of PAN **-uy*.

We noted above that one source for *kwe* was final *u* followed by the noun marker. (See the discussion above regarding *belukwe*.) If that is so, why, then, do we find *auē* and not the expected *akwe*? If the sequence of sound changes were similar to the following, then we would predict an excrescent *k*. PAN **Xapuy > aɸu+ə > aɸu^wə > auwe > aukwe (or akwe)*. Obviously this proposed sequence of sound changes is incorrect since it does not result in the actual Alune word.

Consider that if *y was retained until a late stage, that is after the shift of transitional [w] to kw in other words (belukwe, etc.), then there would have been no transitional glide in the reflex of *Xapuy. This means that the retention of *-y until a late period blocked the conditions for the development of [w]. Since there was no [w] (from *u in *Xapuy), kw failed to develop. The correct sequence of events was *Xapuy > aɸuy+ə > aɸuye > auye. Sometime after the general sound change which shifted intervocalic *u to [w], *y was lost in Alune. The loss of *y was a general sound change which affected intervocalic *y. For example PAN *Daya > n-da *landward* and *buqaya > buka *crocodile*. So, **auye > auwe⁶⁶ after intervocalic w became kw.

The implications of this are important. The position which Blust (1976) took that loss of *w in *aw and loss of *y in *uy was part of the general loss of final consonants in the languages of Seram and elsewhere is supported by the analysis offered here. PAN *y and *w (from *uy and *aw) were retained in Alune only when they became intervocalic by the suffixing of *-ə. Absolute word final *y and *w were lost without a trace whereas intervocalic *w and *y were retained and underwent subsequent sound changes: *w > kw and *y > Ø.

PAN *aw and *uy were retained in Alune under the conditions specified here. Consequently Stresemann's assertion that all PAN diphthongs were "truncated" in the proto-language of Seram is not supported by the Alune data. We must reconstruct partial retention of *aw and *uy in Three Rivers and its ancestral language, Nunusaku.

4. Perspectives on Wemale and Alune

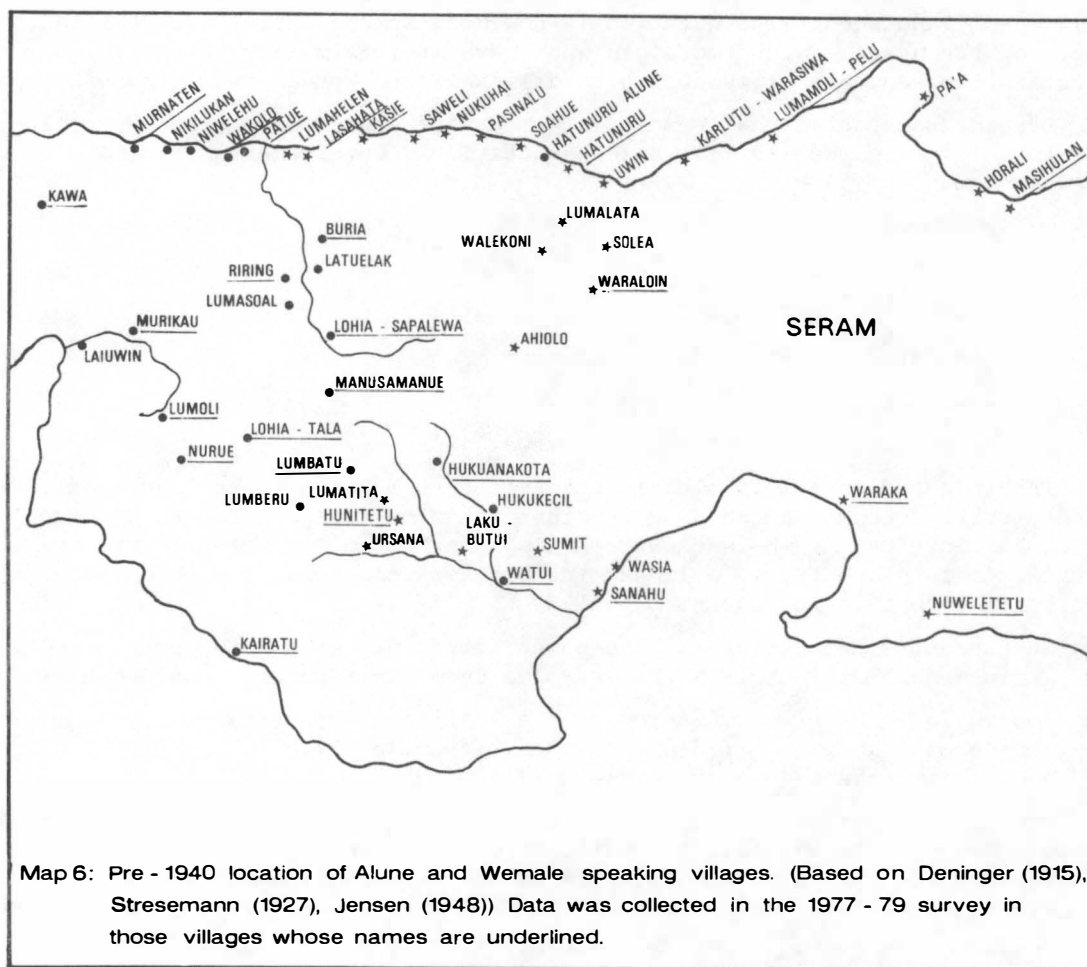
Although a detailed discussion about Wemale's many and far-flung dialects is not attempted here, a brief enquiry into Alune and Wemale is necessary. We know little about either language so any analysis of either will shed light on the other.

Until quite recently the mountains of western Seram were inhabited by Alune and Wemale speakers. A glance at Map 6 indicates how closely interwoven their geographic locations were. This ancient proximity has been obscured by the village sites now occupied by Wemale speaking villages.

Considering the locations on this map, it is not surprising that a number of areal features might be shared among Alune and Wemale dialects, in particular those spoken in the Tala River basin. These sound changes which are shared by Alune and Wemale dialects are considered in the following pages. But the focus of the analysis here is precisely on the sound changes which purportedly distinguish Wemale from other languages of western Seram.

The Wemale language is among the most poorly described of the languages of the area. Before the present century only three wordlists appeared. Ludeking published his faulty vocabulary of 'Alefoeroe' (Northeast coast of Seram). This is apparently a carelessly transcribed vocabulary of a Wemale language on the north coast. Boot (1893) published two Wemale vocabularies under the headings 'Patasiwa' and 'Patalima'. As he pointed out (1893:1183) these are closely related dialects, differing in only a few details.

Both Taurern (1928) and Stresemann (1918, 1927) provided more information about Wemale. Taurern, drawing on his own material, Deninger's and Stresemann's as well as the unpublished wordlists of van der Aalst, a missionary of West Seram, wrote a brief grammatical sketch of Wemale including some remarks on the



sound system. Stresemann presented considerable information about Wemale throughout his 1927 book. In a few cases this information is misrepresented and attention will be drawn to minor inaccuracies. Later the Frobenius Institute's expedition in Seram produced a number of significant ethnographic studies (Jensen 1939, 1948; Röder 1948). Unfortunately, except for less than sixty Wemale words in the indices of these books, no linguistic material appeared. The institute's collection was largely destroyed during the war.

Necessarily, then, in the following pages I will rely largely on data I recently collected in ten Wemale speaking villages.⁶⁷ Occasionally Stresemann and Tauern are also cited.

All earlier authors agree that, although there are numerous similarities in vocabulary and even sound changes, the Wemale possess a distinctive culture and language. Grounds for separating Alune and Wemale range from Tauern's doubtful claim that the Alune are descended from mercenaries sent by the sultan of Jailolo (1928:1002) to Niggemeyer's reference to blood group research of the thirties (1952:51).⁶⁸

All of these interesting non-linguistic arguments are of no relevance to classifying languages. The question is how does Wemale differ from the languages of the area. Furthermore, in what ways is it similar? Finally can we ascertain the sequence of events which distinguished Wemale from other languages?

Stresemann asserts that Wemale is a separate branch of a group he calls 'Sub-Ambon'. He cites (1927:8) six characteristic developments in Wemale's sound system. They are:⁶⁹

1. PAN *mp, *mb > mb > k;
2. PAN *b > p or b;
3. PAN *p > h or Ø;
4. PAN *nt *nd *ns > nd > d or r;
5. PAN *x/Z *D *d *l *j > l > l;
6. Retention of the PCM 'support vowel' *-ə.

In his notes on Ahiolo, Tauern observes that 1. p in other languages is k in Ahiolo, 2. b became p and 3. r in other languages corresponds to a retroflex [ɖ] in Ahiolo. On the whole then Tauern's remarks and Stresemann's are complementary. Consequently we will examine Stresemann's remarks with only occasional reference to Tauern.

Stresemann's remarks are to the point; certainly with no exceptions PCM *mb > k in Wemale dialects. A few examples from Hunitetu are provided here:

PAN *ma-putiq > kuti-le	<i>white</i> ;	*timba > ma-tika	<i>water scoop</i> ;
*ma-penuq > kenu	<i>full</i>	*rumbia > liki	<i>sago</i> ⁷⁰
*umpu > uku	<i>mother-in-law</i> ;		

The first question one might ask is: if **mb became k, what happened to *k? Without exception *k was lost (probably through an intermediate stage of *ʔ). PAN *g, *ŋg, *ŋk (which merged to PCM **ŋg and later Nunusaku **k), with few exceptions, shifted to ʔ elsewhere. Observe the following entries from Hunitetu.

PAN *kuluR	<i>Artocarpus</i>	u:le	*manuk	<i>bird</i>	manu
*ikan	<i>fish</i>	iane	*gəlgəl	<i>notch</i>	heʔe- (<i>armpit</i>)
*kututu	<i>louse</i>	utu	*naŋka	<i>Artocarpus</i>	i-naʔale

Presumably after **ʔ (from PAN *k) became Ø, then **k (from PAN *g, *ŋg, *ŋk) became ʔ. At that point PAN *mb, *mp became k. We know that in Proto-Central Maluku PAN *mb, *mp merged to **mb. All other languages of western and central Seram display p as the reflex of **mb. That Wemale shifted **mb to k is unusual. However, if we assume that the shift was a sequenced one, the development is less striking. Note:

1. **mb > p
2. **ʔ > Ø
3. **k > ʔ
4. **p > k

In other words we assume that PCM **mb became **p in Wemale, as it did in all other languages descended from Nunusaku. After the shift of **k to ʔ, **p became k in Wemale. It has been suggested (Jakobson and Halle 1956; Chomsky and Halle 1968) that [p] is acoustically and phonologically similar to [k]; i.e. they are grave. A shift within [+grave] is not all that rare; for example

Proto-Algonquian *p > Arapaho-Atsina k.⁷¹ So while the shift of **p to k is unusual, it is not unlikely. In the next few pages we note the shift of *b to p in most dialects of Wemale. At an intermediate period the reflex of *b was so similar to **p (from **mb) that this pressure stimulated the shift of **p to the remaining unoccupied (since **k > ?) occlusive position, [k]. After the shift of **p to k, the reflex of *b moved to [p]. In short, the unusual innovation of shifting **mb to k occurred as part of a complicated series of consonant shifts. The earlier shift of **mb to **p must be postulated to explain the contemporary reflex, k.

So, while Wemale now displays k, we can be confident that at an early stage, namely Nunusaku, it shared the innovation **mb > **p. In addition to PCM *mb, Stresemann considers the treatment of another PCM nasal cluster. He notes that PAN *ns, *nt, *nd > PCM *nd (in his symbols "d"); this sound became d or r in Wemale. He claims elsewhere that PCM *nd > r in Alune. In fact, certain dialects of Alune and Wemale display d while others display r. Note the following,

PAN	*ma(n)sər ⁷²	*punti	*ŋu(n)su	PCM *(n)tibu	*mbondol
Gloss	<i>marsupial</i>	<i>banana</i>	<i>mouth</i>	<i>fly</i>	<i>yellow</i>

Wemale:

Hunitetu	madele	hudi	nudu	dipu	(unile)
Sanahu	madele	udi	nudu	dipu	kodule
Kasie	marele	huri	nuru	ripu	(unne)
Lumamoli	marele	huri	nsi- ⁷³	ripu	(unine)
Masihulan	marele	huri	ncu	ripu	(kunin)

Alune:

Riring	marele	uri	(bidu-) ⁷⁴	riβu	porole
Lohia-Spl.	marele	uri	(bidu-)	diβu	porole
Hukuanakota	marele	udi	(bidu)	dibu	porole
Buria	marele	uri	(biru)	diβu	(unine)
Nurue	marele	uri	(biru)	ribu	porole
Murnaten	marele	uri	(biru-)	ribu	porole
Kairatu	marele	uci	(bicu)	cibu	porole

In Hunitetu, Sanahu and, by Tauern's report, Ahiolo **nd > d. These villages are all in the Tala River basin. (Refer to Map 5.) In other villages we note the consistent display of r as the reflex of **nd. In Lumamoli there is an unexpected shift of *u to i in the reflex of *ŋu(n)su. In both Lumamoli and Masihulan we see reflexes of *ŋusu without prenasalisation of *-s-. Masihulan reflects predictable conditioned palatalisation of s before high vowels (and subsequent palatalisation of n before the palatal stop: so, *ŋusu > nsu > ncu > ncu). Palatalisation of *s is common among Wemale dialects spoken on or near the Saleman Bay.⁷⁵

In Alune dialects the reflexes are not so clear cut. In Nurue and Murnaten, dialects far to the west, **nd is consistently reflected as r. In Riring there is one possible case of **nd > d (in bidu); elsewhere **nd > r. In the other dialects, we find r, d, c as reflexes of **nd.

Despite the seeming irregularity of these Alune reflexes, note that Kairatu and Hukuanakota correspond to each other. That is both display r in the same entries (*mansər and **mbondol). Likewise where Kairatu has c, Hukuanakota has d. Lohia Sapalewa also matches Hukuanakota, with only one exception: *punti > uri *banana*. It is important to note that among Central Alune dialects, Lohia-Sapalewa is alone in displaying a reflex of *punti. In all other dialects (of Central Alune) the taboo-avoidance alternative word tema is used. It is likely

then that uri in Lohia-Sapalewa is a loanword, probably from the nearby North Alune dialect, Riring.

If that is so, we have evidence in three distinct dialects of Alune of a split in PCM ***nd*. Given these five entries we might conclude that this split was conditioned by the following vowel. For example, in Hukuanakota ***nd* > d/_u, i (in udi, bidu and dibu), while ***nd* > r/_ə, o (in marele and porole). However, this preliminary conclusion is unwarranted. Note the following evidence.

PCM		Kairatu	Hukuanakota	Lohia-Spl.	Nurue
<i>**ndala</i>	<i>flow</i>	cala	dala	dala	rala
<i>**(n-)toko</i>	<i>short</i>	dokone	doko	doʔone	rokone
<i>**ke(n)ta</i>	<i>pain</i>	kera	keda	ʔerale	kerake
<i>**(n)tana</i>	<i>take</i>	tana	tana	danae	rana
<i>**(n)taba</i>	<i>hurl</i>	taba	taba	daʔa	raba
<i>**(n)taʔena</i>	<i>recognise</i>	a:tena	tena	dena	rene
<i>**(n)tewa</i>	<i>know</i>	tekwa	tekwa	deʔwa	rekwa
<i>**ndindin</i>	<i>cold</i>	merici	madidi	mdidi	mliri
<i>**ndila</i>	<i>fear</i>	cira	dila	dila	rila
<i>**sindu</i>	<i>sift</i>	(leruke)	sidu	sidu	siru
<i>**(n)tuə(t)</i>	<i>sit</i>	tue	tue	due	rue
<i>**(n)tilu</i>	<i>give</i>	tiruke	(neʔa)	(larae)	riluke
<i>**(n)tumbak</i>	<i>punt</i>	(rumeke)	tupaʔe	dupaʔe	rupak

First of all, by way of explanation, note that both Lohia-Sapalewa and Nurue retain a remnant of the PCM t- conjugation, while both Kairatu and Hukuanakota have lost any trace of that conjugation except in verbs which always applied to non-human agents (such as 'fly' and 'flow'). Consequently in only these two verbs do we have evidence of the correspondence in all four dialects. Nonetheless, with only one exception (***ke(n)ta*),⁷⁶ we see that in Hukuanakota and Lohia-Sapalewa d corresponds to Kairatu c and Nurue r, no matter what the following vowel is.

If the following vowel is not the conditioning factor, only one other variable is at hand. In each entry in which we can reconstruct the occlusive we observe that **nt* and **nd* yielded c in Kairatu and d in Hukuanakota and Lohia-Sapalewa. In the single entry in which we unambiguously reconstruct **ns*, r appears in all dialects. PAN **mansər* became marele in every Alune dialect but PAN **punti* became uri, udi or uci and PCM ***(n)dindin* became mliri, madidi or merici. In the ancestral language of Alune dialects, **ns* > r but **nt*, **nd* > ɖ. Later ***ɖ* became r in Nurue, Murnaten and elsewhere while ***ɖ* became c in Kairatu.⁷⁷

This position marks a considerable divergence from Stresemann's analysis. First, he claimed that PCM (so-called 'Ur-Ambon') merged PAN **nd*, **nt*, **ns*, **nz*, **nj*, **nD*. Although no evidence regarding nasal clusters containing **z*, **D* or **j* is available, we have striking evidence that in Alune only **nt* and **nd* merged while **ns* retained a distinct reflex, r. The rhotacism⁷⁸ evidenced in Alune dialects forces us to assume that at the Nunusaku stage PCM ***nd* did not merge with PCM **ns*.

Second, because there are Alune and Wemale dialects which display d from **nd*, we assume that in both Alune and Wemale ***nd* > ɖ. Subsequent changes in various dialects resulted in a shift to r (or in Kairatu c). This means that Alune and Wemale share the innovation **nt*, **nd* > **nd* > ɖ. In Alune, some dialects (note Nurue) merged ɖ and r (from ns). Possibly in Wemale a similar phenomenon took place. Tala River basin dialects merged ɖ (from ***nd*) and r (from **ns*) to d. Other Wemale dialects merged both to r.

In short, Alune and Wemale share the innovative shift of ***nd* > ð. Subsequent changes in their dialects have obscured this shared innovation.

Stresemann (1927:41-2), as noted earlier, proposed that in Alune ***nd* > r while in Wemale ***nd* > d or r. This is an unacceptable generalisation. Consequently Stresemann's assumption that Alune and Wemale are distinguished from each other by their respective treatments of the prenasalised consonants is superficial. Detailed analysis of dialectal treatment of **mp*, **mb*, **nt*, **nd* and **ns* has demonstrated that at their earliest stages Alune and Wemale did not differ: ***mb* > p; ***nd* > ð and ***ns* > r.

In still another instance we must reject Stresemann's grounds for distinguishing Alune and Wemale. The reflexes of **b* in these languages provide evidence that before dialectal differentiation they both retained **b* as ***b*. In general, Alune dialects display **b* as b and in Wemale **b* > p. However, under detailed examination of the data these generalisations fail to hold up.

Although Niggemeyer overlooked the fact, as early as Tauern (1929:953), the appearance of a variant of **b* in Alune was noted. He says that "b is similar to w but pronounced hard and forcefully (*hart und gestossen*); only in initial position does b sound like it does in German". Stresemann (1927:57) says that in Alune **b* is either a "spirant (written 'w') or b, fluctuating individually".

There is some fluctuation as Stresemann noted. In some dialects intervocalic **b* is [β]. In other dialects **b* is [b] in all positions. Some speakers, however, insist that there are minimal pairs with [b] and [β] in initial and medial positions. In Murnaten, for example, I collected a number of such pairs.

βue	<i>to blow</i>	βutue	<i>spray with saliva</i>
bue	<i>legume sp.</i>	butue	<i>to cut</i>
βuse	<i>lung</i>	reβe	<i>blink</i>
buse	<i>cough</i>	rebe	<i>crack open (kenari nut)</i>
aβa	<i>to sneeze</i>	βerele	<i>pluck</i>
aba	<i>sago trough</i>	berele	<i>firm, hard</i>
βua	<i>head hair</i>	βekule	<i>hair-pick</i>
bua	<i>heart</i>	bekule	<i>bamboo 'spine' for thatch</i>

In Riring, a few minimal pairs appeared as well.

βusa	<i>fire (a field)</i>	βuβute	<i>mist</i>
busa	<i>arrive</i>	bubute	<i>smeared with filth</i>
βole	<i>snare trap</i>		
bole	<i>can, allow (Borrowing from Malay boleh.)</i>		

In some cases the semantic connection is so close (note: 'blink' and 'crack open' or 'mist' and 'obscured by smeared filth') that one suspects interdialectal borrowing or over-differentiation by certain speakers. It is possible that in some cases late sound change has obscured earlier differences. For example, Riring *kβuse cough* and *βuse lung* should be compared to Murnaten *buse* and *βuse* respectively. Here loss of the prefix *k-* in Murnaten obscured the alternation (?). Compare both Alune forms for 'cough' to Asilulu *kahusek* for further confirmation of this interpretation. Note too Murnaten *bue* and Lisabata *kahue kind of legume* (especially *Phaseolus radiatus*). Again *k-* has been lost in Murnaten. Riring *mbekule* and Murnaten *bekule bamboo shank in thatch* indicates loss of *m-* in Murnaten.

With this in mind, a possible generalisation is that in initial position $b > \beta / _u$ and later $\beta > b / [+con] _$. Both of these are of course late dialectal sound changes. This does not explain all the oddities in Murnaten minimal pairs. It suggests that sound conditioned explanations are forthcoming but inter-dialectal borrowing has obfuscated that fact.

At any rate, even in Alune $*b$ has at least two reflexes: $[b]$ and $[\beta]$. According to Stresemann (1927:56) Wemale $*b$ "became b or p individually fluctuating with a preference for the *tenuis*". He cites four examples from Sumit in which $*b > b$. One is almost certainly a loanword (*bibi goat*, perhaps from Makassarese *bembe*). It is possible that Sumit which is at the confluence of the Tala and Nui Rivers may have borrowed the other four examples from Alune-speaking raft passengers. Hukuanakota, Hukukecil and Watui raft cargoes (sago and thatch, chiefly) must pass through Sumit. On the other hand, the forms Stresemann cites which display $*b > p$ may be loanwords from other Wemale dialects; their rafts pass through Sumit as well.

In addition to the possibility of borrowing another solution suggests itself; there was an unconditioned split of $*b$ in Sumit and perhaps other dialects. In all ten dialects of Wemale which I recorded, $*b$ became p . However in other Nunusaku languages such as Manusela I noted considerable unconditional alternation between $[b]$, $[p]$ and $[\phi]$ as reflexes of $*b$. This alternation occurred both interdialectally and even among speakers of a single dialect. In Manusela some social factor, as yet unclear, may be involved. Possibly the situation was similar in Wemale of perhaps a generation ago.⁷⁹

There are some grounds, then, for proposing that the change of $*b$ to p in Wemale may be a recent innovation. First, we note at least one dialect (Sumit) in which (purportedly) $*b$ became p and b . Second, we have already indicated that $*b$ could not have become p until $**p$ (from $**mb$) had become k and that change ($**p > k$) had to have occurred after the shift of PCM $*ng$ to $?$. (See the arguments on pages 54 and 55.) Furthermore, the change of $*b$ to p was not unique to Wemale in the area. Other languages already demonstrably closely related to Alune shifted $*b$ to p . Indeed, Watui, an Alune dialect shifted $*b$ to p (with some exceptions). Other languages display f or h . In short, $*b$ was particularly subject to change in the descendants of Three Rivers.

PAN	$*bulan$	$*busuR$	$*babuy$	$*baba$	$*batu$
Gloss	<i>moon</i>	<i>bow</i>	<i>pig</i>	<i>carry</i>	<i>stone</i>
Watui	pulane	pusule	papu	papa	patu
Hulung	pulane	pusule	papu	(piti)	patu
Loun ⁸⁰	fulane	pusule	papu	-	patu
Naka'ela	hulane	husule	(apale)	haha	hatu
Lisabata	hulane	husune	ahu	aha	hatu
Sawai	hulan	(helu)	hahu	paha	hatu
Haruru	fulane	fusule	fafu	(fitie)	fatu
Yalahatan	hulane	husule	hahu	(hitie)	hatu
Awaiya ⁸¹	'phulani'	'husuli'	'hawhua'	-	-

Based on the dialectal variation within Wemale itself, the shift of $*b$ to p (and other sounds) in languages closely related to Alune and the fact that any shift of p in Wemale must have followed the shift of $**p$ to k , we conclude that at the time of their split from Nunusaku, Alune and Wemale must have retained $**b$ as the reflex of $*b$.

We have discussed $*w$, $*mp$, $*mb$ and $*b$. Only one sound remains in the labial series: $*p$. In sorting out the sound changes that occurred in Wemale a number of sounds passed through a stage in which they became p . PCM $**mb$ became

**p* in Nunusaku and PAN **b* became *p* in contemporary Wemale. What then had happened to PAN **p*? Probably as early as Nunusaku **p* had become **ɸ*. So few languages in western Seram retain any reflex of **p*, for example Alune, that it was probably an unstable sound. On the other hand, we know that some reflex of **p* must have been retained in Alune until quite late in order to account for the vowel change phenomena discussed in section 2 of this chapter. The reflex of PAN **p* in Wemale is *h*, again suggesting an earlier spirant stage. Note the examples from Waraloin:

PAN	<i>*Xapuy</i>	> <i>yahu</i>	<i>fire</i>	<i>*pija</i>	> <i>hila</i>	<i>how many</i>
	<i>*punti</i>	> <i>huri</i>	<i>banana</i>	<i>*pitu</i>	> <i>hitu</i>	<i>seven</i>
	<i>*pajey</i>	> <i>ha:</i>	<i>rice</i>			

While there is no internal evidence to assert that **p* first became *ɸ* before it became *h*; it is not an unreasonable assumption. Sound changes do not occur, in principle, more than one feature at a time. A shift from stop to spirant probably preceded the shift from labial to non-labial; that is, **p* > *ɸ* > *h*. In fact, probably as early as Nunusaku PAN **p* had become **ɸ*. See Chapter VI.

There is still another sound change which Alune and Wemale seem to share. In the next chapter it will be noted that one of the sound changes which distinguished Proto-Piru Bay from Alune is the treatment of **d* in PAN **dəŋəR*. Proto-Piru Bay assimilated this **d* to the following *n*: **dəŋəR* > **nəŋə* *hear*. In Alune no such assimilation took place. All **d* became *l*. So Alune displays *lene* (and Hulung *alne*) *hear*.

In Wemale, too, all **d* became *l*. A later innovation (already mentioned) deleted *l* between like vowels.⁸² For example in Hunitetu:

PAN	<i>*walay</i>	> <i>wa:</i>	<i>strand</i> ⁸³	<i>*daRəq</i>	> <i>la:</i>	<i>blood</i>
	<i>*baRa</i>	> <i>pa:</i>	<i>shoulder</i>	<i>*naRa</i>	> <i>na:</i>	<i>Pterocarpus tree</i>
	<i>*maja</i>	> <i>ma:te</i>	<i>dry (sand)</i>	<i>*kuluR</i>	> <i>u:le</i>	<i>Artocarpus fruit</i>

To these examples of the deletion of *l* between like vowels we add **dəŋəR* > *ha-lane-ʔe* > *haneʔe*.⁸⁴

Both Alune and Wemale display the innovation which changed **d* to *l* in all positions. There is no evidence to suggest that this innovation was not a shared innovation which distinguished Alune and Wemale from other descendants of Nunusaku. Certainly it sharply distinguishes Alune and Wemale from Proto-Piru Bay. In the following chapter considerable evidence will be presented to indicate that **d* must have been retained as a sound distinct from **l* until a very late stage in the history of that branch of Nunusaku.

One apparent difference, not treated in detail by earlier authors, distinguishes Alune (and all Amalumute languages) from Wemale. Compare the following entries:

PAN		Nurue	Hunitetu
<i>*kaSiw</i>	<i>wood</i>	<i>ai</i>	<i>yai</i>
<i>*Xapuy</i>	<i>fire</i>	<i>auwe</i>	<i>yahu</i>
<i>*qatəp</i>	<i>thatch</i>	<i>ateʔ</i>	<i>yate</i>
<i>*kasaw</i>	<i>rafter</i>	<i>asak buai</i>	<i>yasa pui</i>
<i>*asu</i>	<i>dog</i>	<i>asu</i>	<i>yasu</i>
<i>*kabil</i> ⁸⁵	<i>hook</i>	<i>abile</i>	<i>yapile</i>

In Hunitetu and all Wemale dialects an unexplained *y-* appears before nouns which would otherwise display initial *a*. In Nurue and all Amalumute descendants no such prothetic *y-* appears. In Chapter VI the possible origin of this

prothetic segment is discussed. At this point, let it be noted here that if it is an innovation in Wemale, it is an innovation which occurred at the time of the split of Amalumute and Wemale. Similarly if it is a retention, then it represents an innovative loss in Alune at the time of the split of Alune (and Amalumute) from Wemale. We have already noted the loss of *y in Alune earlier in this chapter. So it is possible that this prothetic y- was present in Alune at an earlier period and later lost by the same sound change (*y > Ø).

Throughout this section we have repeatedly found that phonological differences which were supposed to distinguish Wemale sharply from Alune and other languages of West Seram are not so 'sharp' after all. By attempting to sketch the history of Wemale's consonants we have found that the earliest stage of Wemale must have closely resembled Alune. Indeed, they seem to have not only a number of retentions of Nunusaku innovations (such as **mb > p, *p > φ, **nd > d and so forth) but the distinctive innovation of shifting *d to l.

CHAPTER V

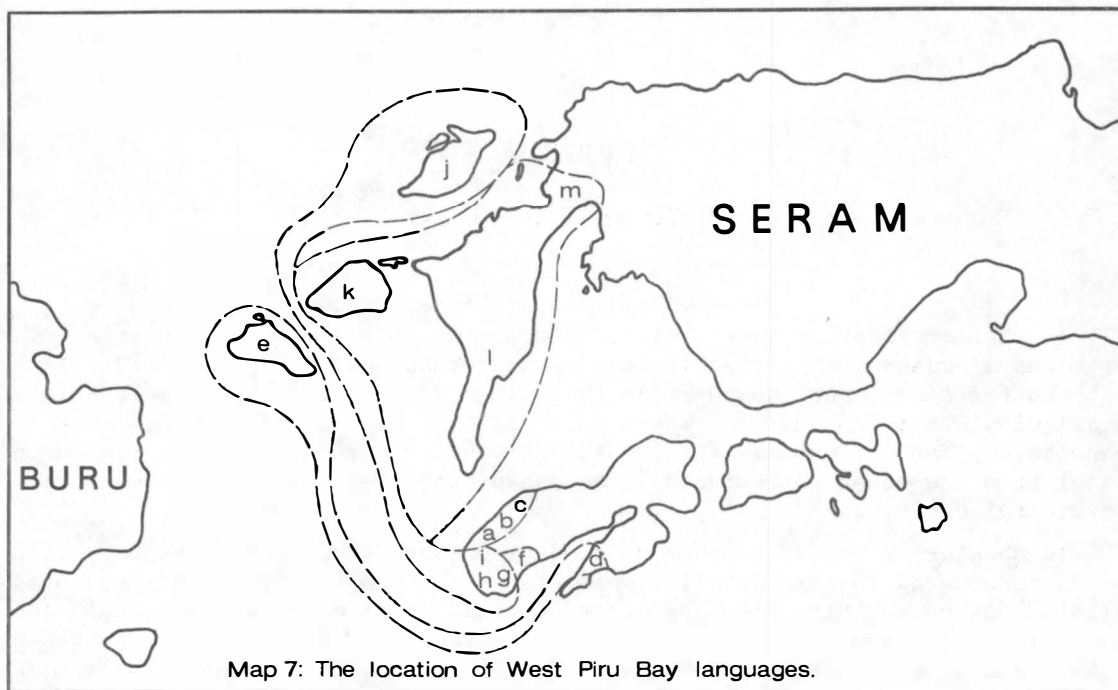
PROTO-WEST PIRU BAY

In Chapter II Stresemann's classification of the languages of western Seram was discussed. His classification was reconsidered in Chapter IV. In that chapter Stresemann's assumption that Alune ('Sapalewa') is closely related to Asilulu, Batumerah and Piru was challenged. It was argued that numerous phonological innovations distinguish the descendants of Three Rivers (including Alune) from the other descendants of Nunusaku, the proto-language of western and central Seram.

In Chapters V and VI another descendant of Nunusaku, Proto-Piru Bay, will now be considered in some detail. This branch includes among its descendants Asilulu, Batumerah, Piru and many other coastal languages of western Seram and the adjacent islands. Because of the large number of languages in this branch of Nunusaku, the discussion spans two chapters.

In Chapter V the several innovations which are shared by both branches of Proto-Piru Bay will be considered in the first section. The family tree of PPB will be outlined and contrasted to the classifications offered by earlier authors. Three subsequent sections take up the details of subgrouping within West Piru Bay. Certain innovations are discussed: the treatment of secondary sequences, the loss of PAN *y and reflexes of PAN *t and *k. A final section deals with the reflexes of *l, *ʔ, *R, *j, *d/D, *z/Z and *n in Boano. The pattern of mergers and retentions in Boano has important implications for PAN as well as PCM.

A map of western Seram (Map 7) is provided here in order to present an overview of westernmost Seram and the adjacent islands. Most of the villages whose languages are discussed in the following pages are noted. The arguments regarding the subgroups proposed here will be presented under the relevant sections.



Map 7: The location of West Piru Bay languages.

a	Asilulu	h	Wakasihu	g-h-i-j	East Hoamoal
b	Ureng	i	Larike	g-h-i	Proto-Wakasihu
c	Henalima	j	Boano	d-e-k-l-m	West Hoamoal
d	Batumerah	k	Kelang	d-e	Proto-Manipa
e	Manipa	l	Luhu	k-l-m	Proto-Luhu
f	Liliboi	m	Piru	a-b-c	Proto-Asilulu
g	Allang				

This map does not make clear the present-day settlement of Kelang speakers on Manipa's south coast and their complete absence on Kelang Island itself. The language of Batumerah is now extinct having been replaced by the local dialect of Malay.¹ The small villages on the southern tip of Hoamoal peninsula under the hegemony of Asilulu, Wasasihu, Larike and Ureng are not indicated here.² The Saparua-speaking villages of Kulur and Iha located beside Luhu (l) are not indicated on this map; see Chapter VI. Liliboi (f) is said to have spoken the same language as Allang. The language is now extinct, having been replaced by Ambonese Malay.

¹With few exceptions languages in Central Maluku which are now extinct have been replaced by the local dialect of Malay, Ambonese Malay. This powerful acculturating force has been discussed in Collins 1980a. Descriptions can be found in van Hoëvell (1876), de Clercq (1876), Manuputty (1972?) and elsewhere.

²Some villages under Luhu's control such as Kambelo on the south west coast of the Hoamoal peninsula speak Luhu as a second or third language. These villages are populated largely by newcomers from southeastern Sulawesi. The use of Luhu among these speakers of southeast Sulawesi languages appears to be a reintroduction of the Luhu language into areas where probably in ancient times it was indigenous.

1. Proto-Piru Bay: the family tree and innovations

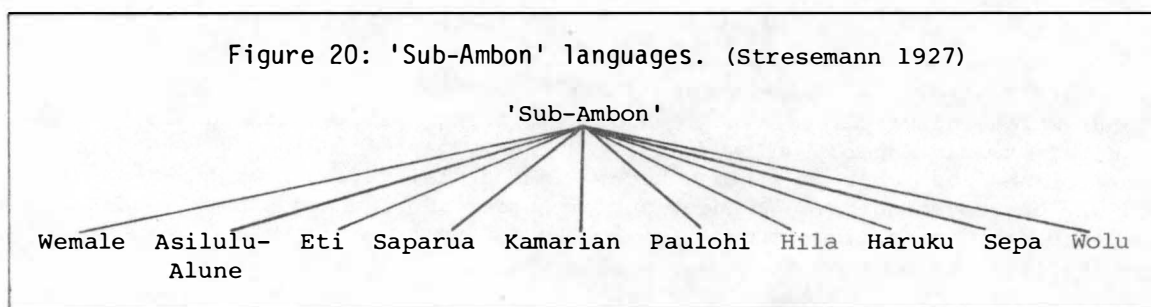
In 1511 the first Europeans appeared off the coast of Asilulu. They were brought to the ruler of Hitu, a village further east along the northwest coast of Ambon Island. These outsiders were allowed to join the other foreign travellers (Arabs, Chinese and Javanese) trading in spices and waiting out the monsoons in Hitu, an entrepot of the clove and nutmeg commerce of the day. It was not long before the Europeans were expelled, purportedly because of their drunken rowdiness. Then, they established themselves on the other side of the mountains of the Leihitu peninsula, that is in the bay of Ambon. It was on the shores of this superb natural harbour that they erected their forts and churches, traded and proselytised.⁸⁶

From that time on and throughout the colonial period, the Europeans, first the Portuguese and then the Dutch, were seldom interested in the villages on the north coast of Ambon, unless it was to suppress rebellions, enforce the spice monopoly or collect taxes. Thus, while the languages of Ambon Bay and elsewhere gradually disappeared and were replaced by Ambonese Malay, the languages of Ambon's north coast and of western Seram never succumbed to language replacement.

The first wordlist of these surviving Central Maluku languages was collected in 1821 and published some thirty-five years later (Reinwardt 1858). Several other brief wordlists appeared (Ludeking 1868; Wallace 1869). Van Hoëvell (1877) was the first to propose a classification of these languages; the details were presented in Chapter II, Figure 5.

In many details Stresemann's 1927 classification follows van Hoëvell's. This is particularly true in the 'Sub-Ambon' group. Yet Stresemann was cautious and declined proposing subgroups of greater detail. For convenience the 'Sub-Ambon' family tree is presented below.

Figure 20: 'Sub-Ambon' languages. (Stresemann 1927)



Like van Hoëvell, Stresemann considered the languages of Asilulu, Batumerah, Seit and Piru close relatives of Alune.

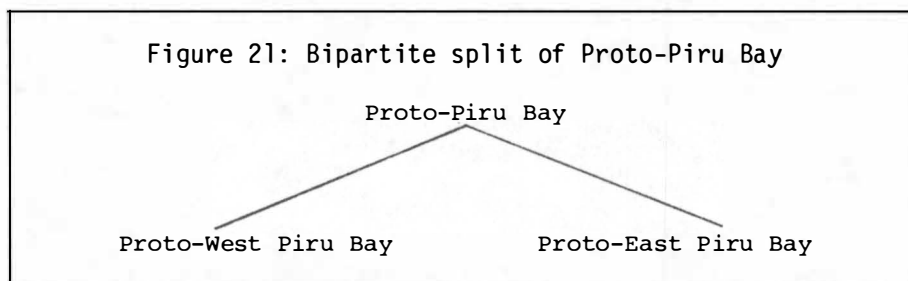
Dyen's 1965 lexicostatistical classification of Austronesian languages assigned Asilulu, Hila, Haruku and Nusalaut to a single dialect chain which was most closely related to Paulohi. Both belonged to the Ambic subfamily. This analysis was later modified (1978b) to include other languages. In that more recent lexicostatistical classification Dyen insisted that Alune was separate from the coastal languages of Seram and Ambon-Uliase. He claimed that Asilulu and Hilan were closely related; indeed they were said to form a dialect chain disassociated from the West Coast Seram group which included Paulohi, Saparua, Kaibobo, Haruku and Kamarian. (See Chapter II, Figure 8.)

This analysis will be compared to the subgrouping which is demonstrated here. It is interesting to note a problem which Dyen was unable to resolve satisfactorily. Lexicostatistics could provide no mutually confirming evidence

to ascertain the position of Piru. On the one hand, there are high percentages of supposed cognation with Kaibobo and Hatusua but, on the other hand, there are very low percentages with Kamarian or Hitu. Dyen suspects that the high percentages with Kaibobo and Hatusua are caused by "contact rather than genetic relationship". In fact, as van Hoëvell (1877) implied, Piru is a dialect of Luhū, a member of the West Piru Bay branch. This will be demonstrated in this chapter; an explanation of the factors which lead to the confusing Piru data with which Dyen worked will be offered as well.

Chlenov's lexicostatistical classification of 'Ambic' languages was more detailed than Dyen's. (See Chapter II, Figure 10.) He, too, excluded Alune from the subgroup which included most coastal languages. He also excluded Sepa from that group. The details and problems of his analysis are considered elsewhere.

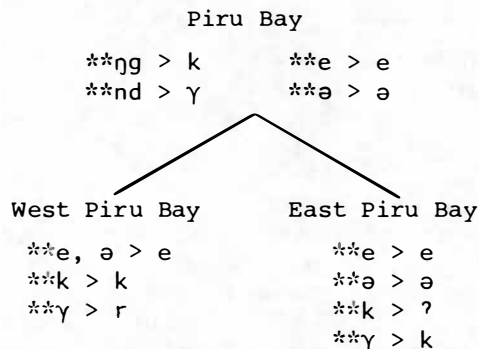
A revised classification of the languages of western Seram and the adjacent islands is proposed here. Van Hoëvell's impression that these languages can be classified into two branches is confirmed in general, though the details of membership differ. Among these details is the necessity of excluding Alune, 'Kawa-Noniali' and Wahai from this bifurcating subgroup of Nunusaku. These languages and other descendants of Three Rivers have been considered in the preceding chapter.



This family tree supports Dyen's early lexicostatistical classification (1965) which indicated a dialect chain associating Asilulu with languages spoken in Hitu, Haruku, Saparua and Nusalaut. But this early finding is considerably less refined than what is claimed here. That a dialect chain might exist is one way of asserting close connections among certain languages but it does not guarantee the connections are genetic. The family tree proposed here, however, specifically claims that there was a bipartite split in a single parent language. This means that all the members of the right branch are, historically, more closely related to each other than they are to any member of the left branch no matter how many changes have taken place by borrowing, diffusion and chance to account for fairly high apparent cognation percentages. In specific terms it means that any West Piru Bay language is more closely related to another West Piru Bay language than it is to an East Piru Bay language.

The grounds for proposing a split in the Piru Bay language group are clear. Three phonological innovations establish the validity of the bifurcation in the Piru Bay language tree. First, West Piru Bay merged the distinct East Central Maluku vowels **e* and **ə* while Proto-East Piru Bay has retained the distinction. Second, East Piru Bay languages have shifted the reflex of Proto Central Maluku **nd* from **ŋ* (at the Proto-Piru Bay stage) to *k*, while West Piru Bay has retained **ŋ* as *r* ([*ɣ*] or [*r*]). Third, Proto-East Piru Bay shifted PCM **ŋg* from **k* to **ʔ* while Proto-West Piru Bay retained **k* as **k*. A schematic representation appears below.

Figure 22: Distribution of phonetic innovations in the branches of Proto-Piru Bay



The evidence for each of these developments is considered below. In reconstructing the vowel system of the proto-language of Central Maluku, Stresemann (1927:95-102) apparently following Brandstetter's Malayo-Polynesian vowel system, proposed, in addition to *ě (here written PAN *ə), another vowel, "e". To avoid confusion, in the current work, Stresemann's symbol 'ě' is written **ə in keeping with the PAN notation adopted in earlier chapters. The sound represented by "e" is written here as **e.

The reconstruction of these two vowels, **e and **ə, is based on a number of very interesting correspondences. As a reflex of PAN *bəli, for example, Central Maluku languages agree in reflecting forms deriving from **beli. A number of Central Maluku languages, however, display different reflexes for most of the other PAN forms containing *ə. A few of these examples are given in Table 1.

Data from two EPB languages, Kaibobo (a West Littoral language) and Latu (a Saparua language spoken on the west shore of Elpaputi Bay, Seram), suggest that there are two reflexes of PAN *ə. In Latu *ə > o, e. This results in the claim that in Central Maluku there were two reflexes of PAN *ə, that is PAN *ə > **e, **ə. Kaibobo displays **e > e but **ə > e, when stressed, o when unstressed.⁸⁷ In words containing two occurrences of **ə the unstressed **ə > o by assimilation. That the split of **ə is not an innovation restricted to these two languages is confirmed by the data from Geser-Goram. Stresemann (1927) excluded this language, which he called 'Seran-Laut' from 'Ur-Ambon'. Even if this exclusion is correct, Geser must still be considered a language closely related to the Seram languages. In Geser we note that **e > e whereas reflexes of **ə are o, when stressed, but a when unstressed.⁸⁸ The data cited from Geser may help us evaluate some recent proposals set forth by Dyen.

He suggested (Dyen 1978b:393) that the presence of a double reflex of PAN *ə in some languages of Seram may constitute evidence for reconstructing two PAN vowels rather than the single vowel (PAN *ə), now generally acknowledged. It seems difficult to justify Dyen's proposed revision since it is based on information only from a single, closely related group of languages. Indeed, he noted evidence in only a few neighbouring languages in Seram, and a few words from Manusela, also in Seram.

Table 1: Selected reflexes of PAN *ə

PAN	PCM	Piru Bay				Non-Piru Bay
		Asilulu	Hitu	Kaibobo	Latu	Geser
*bəli > beli	<i>buy</i>	heli-n	heli-n	al-heri ⁸⁹	heri	
*Dəpa > Depa	<i>fathom</i>	lea	lea	lea	rea	lea
*ləsuŋ > lesun	<i>pestle</i> ⁹⁰	mesun		esune	lesun-no	lesune
*quləj > qule	<i>worm</i>	ule	ule	tonorei ⁹¹	ure-ureo	
*kuDən > kuDən	<i>pot</i>	ulen	ulen	uren	oronno	kuran
*pusəj > pusə	<i>navel</i>	use-ni	use-	use	oso	fusal
*qatəp > qatəʔ	<i>thatch</i>		ateʔ		ato:	
*Dəŋə > dənə	<i>hear</i>	pa-nene	pahanene	anono	unnuʔe	roŋan
*pukət > pukət	<i>net</i>	uet	uet	uet	uoto	fukat
*təbuS > təbu	<i>sugarcane</i>	tehu	tehu	tehu	tohu-ro	tou
*təlu > təlu	<i>three</i>	telu	telu	toru	todu	tolu

It is a common error to fail to look for a conditioning factor and to project a distinction onto the proto-language.

Although Dyen failed to discuss it in his paper, Stresemann (1927:96, 100-1) presented additional evidence from the Buru languages. Elsewhere it has been shown that these languages are also Central Maluku languages but that they belong to a branch of PCM which is different from the branch to which the languages which Dyen cited belong.⁹² Indicating that the Buru languages display a distinction between **e and **ə would at least demonstrate that these sounds existed at a more ancient stage. The evidence which Stresemann presents, however, is not very convincing. For Tifu (Buru) the following PAN reflexes are given.

*bəCəŋ	<i>millet</i>	feten	*baqəRu	<i>new</i>	fehu
*səŋət	<i>wasp</i>	seŋet	*bəli	<i>buy</i>	fili
*qatəp	<i>thatch</i>	atet			

Apparently PAN *ə > e in Buru. The only exception is *bəli > fili which Stresemann notes is due to predictable regressive assimilation. We also find data from another dialect of Buru (so-called 'Kayeli-Alfuren'). In stressed syllables *ə > e but in unstressed syllables *ə > i.

*qatəluR	<i>egg</i>	telo-a	but	*waRəj	<i>rope</i>	wahit
*təlu	<i>three</i>	telo		*Dələm	<i>inner</i>	lali-n

He suggests a similar conditioning rule for Ambelau but offers little evidence.

Evidence collected in the course of the author's fieldwork in Buru suggests that this stress-conditioned split noted by Stresemann is but a dialectal innovation. Another dialect (Namrole) demonstrates a single reflex of *ə. Similarly data from Ambelau (Wailua) confirm the conclusion that languages of West Central Maluku do not display a split of PAN *ə. Ambelau displays *ə > e except for two cases of apparent assimilation.

		Namrole	Wailua
*qatəluR	<i>egg</i>	telu-n	rufu-tolo-i ⁹³
*təlu	<i>three</i>	telo	relo
*waRəj	<i>rope</i>	wahet	waher-e
*Daləm	<i>inner</i>	da-lale	lale-mo ⁹⁴
*Dəpa	<i>fathom</i>	repa	lefa
*ləsu	<i>pestle</i>	resun	lesume
*bəli	<i>buy</i>	pfilik	ek-bili-ena

The fact that Buru languages fail to confirm the hypothetical split of PAN *ə motivated the presentation of evidence from Geser-Goram. As noted above, Stresemann (1927:191-200) explicitly excluded this language from his classification of Seram languages. Thus, the position taken here is that the double reflex of PAN *ə as PCM **e and **ə was an innovation restricted to the languages of Proto-East Central Maluku or the languages immediately ancestral to it.⁹⁵ There is no clear evidence to justify reconstructing such a vowel distinction at a language stage earlier than that. Even the Buru material fails to attest it.

Nonetheless data presented above suggest that languages such as Latu and Kaibobo have retained a distinction that was present in at least the ancestral language, Proto-East Central Maluku. On the other hand other languages such as Asilulu (WPB) and Hitu (EPB) have merged **e and **ə to e. This innovation when considered with other material to be presented below can be used to distinguish the languages of West Piru Bay from those of East Piru Bay. All the languages of West Piru Bay display complete merger of **e and **ə.⁹⁶

In addition to this innovation in Proto-West Piru Bay, a second innovation differentiates the two branches of Proto-Piru Bay. As noted elsewhere, all the languages of Central Maluku provide ample evidence of the merger of PAN *nd and *nt. In Proto-East Central Maluku it seems that PCM **nd (from PAN *nt and *nd) became **ḍ. (See Collins 1981.) As noted in the preceding chapter in western Seram there are several reflexes of **ḍ. In Alune dialects **ḍ appears as d (Hukuanakota), r (Murikau) and c (Kairatu). Among the descendants of Proto-Piru Bay, there are two reflexes of **ḍ: r and k.

Note the following entries from Manipa, Wakasihi, Hitu, Kailolo and Latu (Saparua).

PAN		Manipa	Wakasihi	Hitu	Kailolo	Latu
*(dD)in(dD)in	<i>cold</i>		liri-nu	pa-riki	riki	pi-riki
*n-ta	<i>our</i>	ra-	r-	-ka	ka-	ko-
*punti	<i>banana</i>		ure			
PCM						
**mandamal	<i>NW wind</i>	paramale	maramale ⁹⁷	makamale	makamaru	makamali

There are some cases of **ḍ deriving from initial *nt prefixed by the non-productive syllable *ma-. Presumably the sequence of developments was *ma-t > *m-t > *nd > **ḍ.

PAN		Manipa	Wakasihi	Hitu	Kailolo	Latu
*ma-(Ct)awəŋ	<i>clear</i>	rawa-e	rawa	kawa	kawa?e	
*ma-taStaS	<i>open up</i>		ratak ⁹⁸		katakata	kakata

There are innumerable cases of **ḍ reflected in the conjugational paradigms of verbs with initial *t- or *s-. The examples are from the 2sg form of each verb. See Chapter III.

PAN

*m-tuRun	<i>descend</i>	rulu	rulu	kulu	kuru	kuru
*m-TukTuk	<i>pound</i>	rutu	rutu	kutu	kutu	kutu
*m-tunu	<i>burn</i>	runu	runu	kunu	kunu	kunno
*m-sakay	<i>ascend</i>	raʔa	raʔa	kaʔa	kaʔa	kaʔa

There are also some cases where a reflex of **ð appears in words which derive from bases with intervocalic *s, which apparently was prenasalised in the Piru Bay proto-language.⁹⁹

PAN

*ma(n)sər	<i>marsupial</i>	marele	marilu	makel	makele	makello
*ŋi(n)si	<i>tooth</i>	niniri	niri	niki	niki	

PCM

**ni(n)su	<i>wipe nose</i> ¹⁰⁰	niruk	a-niru	niku		
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No matter the source, it is clear that there is remarkable uniformity of treatment of **ð. The languages which display k as a reflex of **ð are those languages which retain a distinction between **e and **ə, namely the languages of East Piru Bay. Those languages which merged **e and **ə also reflect **ð as r. These two innovations form a solid basis for distinguishing the two branches of Piru Bay. It is claimed here that Proto Piru Bay reflected PCM **nd as **γ.

Many descendants of Proto-West Piru Bay reflect **γ as [γ]: in others it is [r]. In Proto-East Piru Bay **γ > k. A shift from **γ to k is not an unlikely sequence if we posit a plausible and principled sequence of phonetic shifts. Assume that Proto-Piru Bay shared with certain Alune dialects, the north dialects apparently, the innovation **ð > **γ. This occurred at a time after Proto-Piru Bay and Alune split and so must be considered an areal phenomenon. While Proto-West Piru Bay retained **γ as a continuant, the languages of East Piru display a shift of **γ to k, presumably through some intermediate stage. Now in West Piru Bay we note that the contemporary reflex of **γ is often [γ]. If **ð had become **γ by the time Proto-Piru Bay split up, then we may suppose that devoicing of **γ yielded **χ. This **χ could then readily shift to k with a simple change of a continuant to a stop. We conclude, therefore, **γ > **χ > k.

A third factor strengthens this analysis. It is precisely those languages where k reflects **ð which show no k from any other source. As Stresemann (1927:67-70) noted PAN *g, *ŋg, *ŋk merged in the ancestral language of Central Maluku; in other words, PAN *g, *ŋk, *ŋg > PCM **ŋg. Alune and some of the West Piru Bay languages display **ŋg as k; whereas East Piru Bay languages have as their reflex, ʔ. For example,

PAN		Alune	Asilulu	Kailolo	Latu
*gayam	<i>Inocarpus</i>	kaine	ka:n	ʔaen	ʔaʔan-no
*gəlgəl	<i>notch</i> ¹⁰¹	kekele	keke	meʔe	ʔeʔe
*gəlam	<i>Cayeput</i>	kelane	kelan	'irono'	-
PCM					
**ŋga-al-wani	<i>whale</i>	kaluβane	kaluwan	halawano	ʔawan-no
**ŋgalun	<i>clothes</i>	kanune	kalun	'aroeno'	ʔarun-no
**ŋkukku	<i>claw</i>		-koko-		ʔuʔun-no

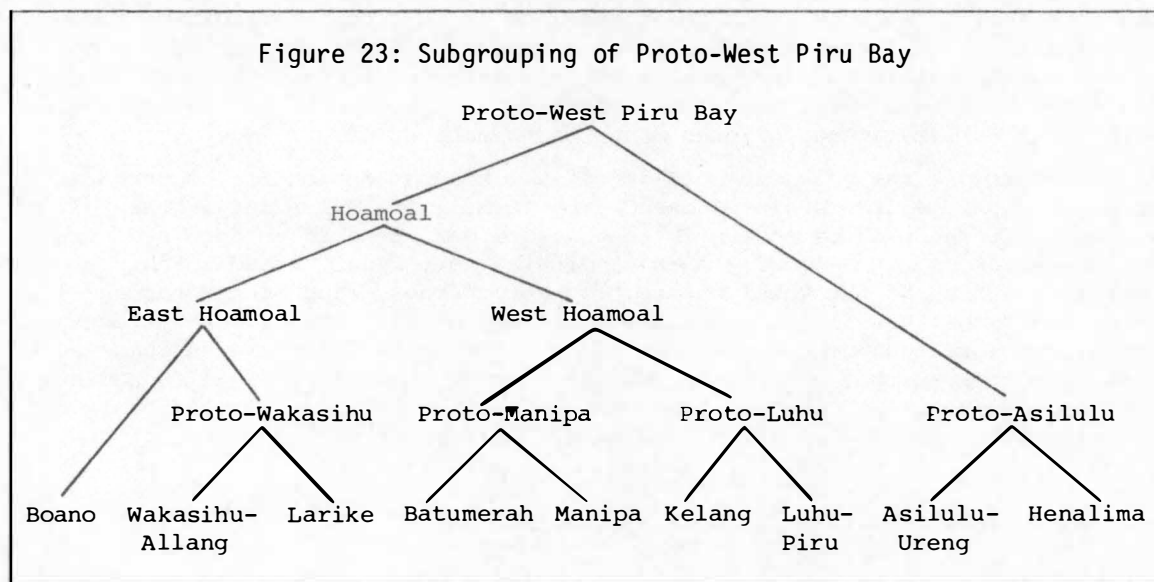
Based on the data from Alune and Asilulu we reconstruct $**k$ as the reflex of PCM $**ŋg$ in Nunusaku, and more importantly in Proto-Piru Bay. The material from Haruku and Latu indicate that Proto-Piru Bay $**k$ became $**ʔ$ in Proto-East Piru Bay. Evidently, then, a third innovation distinguished Proto-East Piru Bay from Proto-West Piru Bay: the shift of $**k$ to $**ʔ$.

When this shift had taken place, the shift of the devoiced $**ɣ$, namely $**χ$, to k could occur with no merger and maximally exploiting the East Piru Bay matrix of phonological features. In short, we have found both the mechanism and the motivation for the innovative sound change of $**ɣ$ to k which characterises East Piru Bay languages.

We can specify the divergence more explicitly.

PPB $**k$ > PWPB k	PPB $**ə$ > e PWPB
> PEPB $ʔ$	> e, o PEPB
PPB $**ɣ$ > PWPB r	PPB $**e$ > e PWPB
> PEPB $**χ$ > k	> e PEPB

Having tentatively delineated the innovations which distinguish the two branches of Proto-Piru Bay we can turn our attention to the member languages of Proto-West Piru Bay. In the following three sections, evidence is submitted to demonstrate the validity of the family tree sketched below.



2. Subgrouping of WPB, Part I: secondary vowel sequences

Through a number of mergers by sequential loss of intervening consonants the West Piru Bay languages acquired a number of secondary diphthongs, in particular $**ai$ and $**au$. By considering their respective treatments of these diphthongs some grounds for subgrouping these languages emerge: 1. Asilulu and Luhu have retained these secondary diphthongs; 2. Manipa and Kelang, although similar, do not fit together; and 3. Wakasihu and Boano display the same innovative treatment of these diphthongs. Note the following.

PAN		Manipa	Kelang	Boano	Wakasihu	Asilulu	Luhu
*baSu	<i>odour</i>	hon		ho-ni	hou	hau-ni	hau
*laSuD	<i>sea</i>	lo-ma	lo-na	lo-nsa	lou	lau	lau
*paSuq	<i>mango</i>	au		oe'e	owo		au
*(dD)aSun	<i>leaf</i>		lau'a		lou-	lau-n	lau'a
*waSiR	<i>water</i>	wele	wale	ene'e	weilu	wail	wael
*kaSiw	<i>wood</i>	hen	hai	eni'i	ei	ai	ai
*taqi	<i>excrement</i>	kai-a		tai-a	tei	tai	tai
*Xapuy	<i>fire</i>	au	au	au	ao-o	au	au
*Zauq	<i>far</i>	-lau	-lau	-lou	lou	lau	-lau
PCM							
**saqi	<i>paddle</i>	sai	sai	se'e	sei	sai	sai
**(n)saqu	<i>areca</i>	rau	rau		routa	rau	rau
***taun	<i>full</i>	u-kone	taun-a	toni'i	touna	taun	tauna
**ndau	<i>in-law</i>	ro-	rau	ro'u	ro'u	rau	rau
**aqi	<i>leg</i>	ai	ai	e:	wei ¹⁰²	ai	ai

In Manipa the diphthong is retained only in *kai-a excrement*, *au fire* and some other items including certain Central Maluku terms with no PAN reflexes. The initial conclusion is that a vowel change which changed diphthongs to monophthongs took place in Manipa after the loss of *S but before the loss of *q or *p. The change that 'elided' secondary vowel sequences (from **au to o and from **ai to e) took place after the loss of *S with the resulting forms *hon odour*, *wele water*, *hen wood* and *lo-na seaward*. Since the change did not effect words containing intervocalic *q it must be presumed that these words did not yet contain vowel sequences. Apparently the change that deleted *q in *taqi (>*kai-a excrement*) followed monophthongisation.

Furthermore the rule was more specific. Monophthongisation occurred in open syllables but not in closed ones. The forms, *wele water* and *u-kone full* suggest that these words ending in continuants were treated as open syllables. The entry for *seaward* *laSuD > lo-na indicates that final *D had already been lost at the time of the vowel change.¹⁰³ For *distant* *Zauq Manipa has *aka-lau* which indicates that final *q was also retained at the time of monophthongisation: hence, the vowel change did not take place. The entry for *mango* *paSuq > au also demonstrates that at the stage vowel elision took place final *q had not yet been deleted. So, in Manipa monophthongisation provides a solid basis for ordering other sound changes. Tentatively, they occurred thus:

1. Loss of *S, Loss of final **d
2. Monophthongisation in open syllables
3. Loss of *q, Loss of *p.

Whether or not the two changes in 1. and those in 3. can be ordered is not clear, but that 1. must have preceded 2. and that 3. must have followed 2. is clearly demonstrated by the material presented above.

In addition to providing the basis for determining more precise reconstructions for some of the PCM vocabulary (for example **nsaqu *areca* but **ndau *sibling-in-law*), this evidence for the ordering of monophthongisation with respect to other sound changes has important repercussions which will be touched upon later.

At this point it is necessary to consider the conflicting evidence from Kelang. Given the forms cited here, it is clear that no monophthongisation could have taken place before *q and *p were lost. The question is whether or

not monophthongisation occurred after the loss of *\$; i.e. whether or not vowel elision took place at all. The body of evidence is smaller and more contradictory. The entry for *wood*, hai (PAN *kaSiw) indicates that no elision took place; however the entry for *water* (PAN *waSiR) displays an unusual vowel: wale. If this is a case of elision, or monophthongisation, it is not similar to the treatment of *ai in Manipa. Equally confusing is the reflex of *laSud, lo-na (*seaward*) which displays elision strikingly similar to that of Manipa. However, evidence from PCM vocabulary argues against elision in Kelang. The reflex of *(dD)aSun, lau?a, clearly contradicts the lo-na form. In this word, it is obvious that no elision or monophthongisation has taken place. Data from Manipa points to an earlier stage of **taun *full* and **ndau *brother-in-law*. If elision took place in Kelang it would have affected these two words in the same way it changed *laSud to la-na. That such a change did not take place in Kelang points to the possibility that lo-na is an exception and may in fact be a word borrowed from Manipa-speaking villages.¹⁰⁴

On the whole the evidence weighs against claiming that Kelang and Manipa display the same treatment of secondary vowel sequences.

The most striking material in the list of secondary diphthongs is the similarity between Wakasihi and Boano. While their respective treatments of these vowel sequences are similar, some important details deserve attention. First, Boano displays e and o as reflexes of **ai and **au, respectively. Wakasihi has ei and ou, respectively. Second, Wakasihi unconditionally displays vowel change in all secondary diphthongs except those resulting from the loss of *p (which, we conclude, occurred later than the vowel changes under discussion here). The change in Boano was not unconditional. Did Boano and Wakasihi, now geographically quite distant villages, at one time have a closer relationship?

First of all it is important to note a possible connection between Boano and Manipa. At first glance, they seem to display the same rule ordering in that Boano displays tai-a *excrement*. This indicates that the vowel change of **ai > e occurred before the loss of *q. However, the reflexes of *Zauq (> -lou) and *paSuk (> oe'e) point to something different. Although both Manipa and Boano underwent vowel change rules, the scope of the rules was not the same. In Boano the rule had a wider scope since it included closed as well as open syllables. This could mean either that the history of Boano vowel sequences is separate from the developments in Manipa or that the vowel change rule occurred more than once in Boano's history; that is, once with the limited scope of Manipa's rule and then later with a broader application. There is no evidence to support this latter possibility.

That Boano tai-a is an exception becomes clear if we consider Central Maluku words which are reconstructed with **aqi. We note that Manipa sai *paddle* must derive from a word containing an intervening consonant either *q or *p. Since languages which regularly reflect *p (such as Wemale and Paulohi) do not display a reflex of *p in this entry we conclude that the intervening consonant is *q; hence we reconstruct **saqi *to paddle*. Comparing **saqi and *taqi, a contradiction in Boano appears. Whereas Manipa shows a regular rule preserving these vowel sequences (sai and kai-a respectively) in Boano we find tai-a and se'e. The conclusion is either that one of these forms is irregular or that other conditions blocked the regular application of the sound change. Another PCM entry strengthens the contention that **ai regularly became e in Boano. The word for *leg* is reconstructed as *aqi. In Boano the reflex is e;; in Manipa ai.

If this interpretation is correct then one of the objections to associating Boano and Wakasihu is removed. Boano's *taí-a* is seen as an exception and all the other relevant forms in both Wakasihu and Boano display a striking similarity.¹⁰⁶ That Boano has *e* or *o* while Wakasihu has *eí* or *ou* can best be explained as a late change in Boano. Thus:

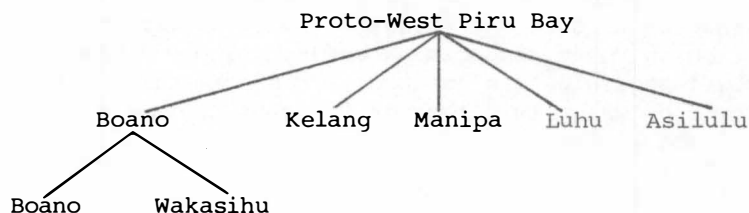
PPB *ai > B-W **ei > Boano and PPB *au > B-W **ou Boano o
> Wakasihu > Wakasihu ou.

On the basis of the innovations they share in their treatments of secondary vowel sequences, including these two more word-specific innovations, Wakasihu and Boano are tentatively grouped together.

Figure 24: Tentative classification of WPB based on diphthongs

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graph TD; A[Proto-West Piru Bay] --> B[Boano]; A --> C[Kelang]; A --> D[Manipa]; A --> E[Luhu]; A --> F[Asilulu]; B --> G[Boano]; B --> H[Wakasiyu]
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Figure 24: Tentative classification of WPB based on diphthongs

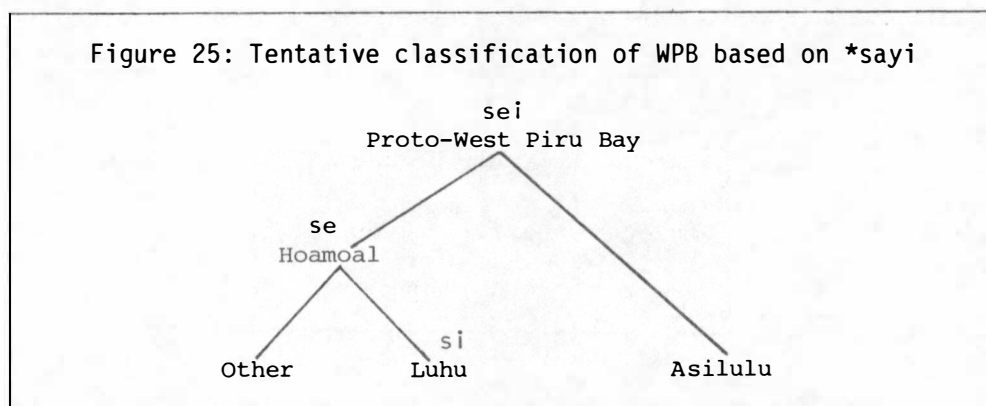


If our analysis of the data is correct only Boano and Wakasihu share unique innovations. Luhu and Asilulu display retentions as does Kelang (assuming our dismissal of certain exceptions is correct) and these provide no basis for sub-grouping. Manipa is alone in displaying complicated innovations in the vowel sequences.

3. Subgrouping of WPB, Part II; PAN *y, *t and *k

By considering some other sound changes it should be possible to refine the family tree and perhaps include more languages. First, two other cases of vowel sequence changes are considered. Then an apparently secondary development from PCM **k is explored.

Dempwolff reconstructs PAN *sayi *who*.¹⁰⁸ The disyllabic form of this entry meant that final diphthong truncation (Blust 1976) which occurred in many Central Maluku languages did not apply here. Nonetheless the contemporary reflexes of this word display evidence of vowel change rules which to some extent parallel those discussed above. Asilulu, generally conservative with respect to vowel sequences, has sei. This form is found in many East Piru Bay languages (Eti, Kaitetu, Kamarian, Haruku, Latu and others). Apparently *sayi > **sei in the proto-language of Piru Bay. Asilulu alone among the West Piru Bay languages has retained this Piru Bay innovation. Manipa, Kelang and Wakasihu display sene while Luhu and Piru have sima and Boano hina. At first glance these reflexes are not compatible with the family tree proposed above. However, by rejecting the Boano entry as a reflex of *sayi since *s did not become h in Boano, we can proceed to the implications of the reflexes. If we suppose that *sayi > sei > se > si, a clear pattern emerges.



Note, too, that the unproductive demonstratives which are suffixed to these forms also confirm the branching proposed here.

This analysis of reflexes the vowel sequence in *sayi both supports and refines the family tree suggested earlier. It shows the position of Asilulu as an independent descendant of Proto-West Piru Bay. It also indicates a closer relation between Luhu and the languages to the west. Tentatively that relationship is labelled Hoamoal. It also suggests that Kelang's relation to other Hoamoal languages is closer than its relation to Luhu. Whether this can be confirmed will be considered later.

Another consideration in classifying the descendants of Proto-West Piru Bay is the treatment of *y in the sequence *aya.

PAN		Wakasihiu	Asilulu	Luhu	Boano	Kelang	Manipa
*gayam	<i>Inocarpus</i>	kainu	ka:ne	kane	ʔa:ne		hai huan
*buqaya	<i>crocodile</i>	huai	hua:	huae	oha		hua:
*Daya	<i>landward</i>	lai	la:	la	la-	la	la
*layaR	<i>sail</i>	lailu	la:l	laʔane	na:n	la:ne	leale

Boano, Kelang and Asilulu indicate that *y > Ø. Wakasihiu, however, displays a retention of *y and loss of *a; *a > Ø/ay_. Manipa displays a very clear retention of *y in hai huan (final n (< *m) is ordinarily deleted in compounds) but in leale it seems that *y caused vowel raising of the first *a. In the other entries *y > Ø. In Manipa, then, when *aya was word final, y > Ø; when it was internal, *y was retained.¹⁰⁹ Luhu displays *y > ʔ in two entries, *y > Ø in one and possible retention of *y in the other.¹¹⁰

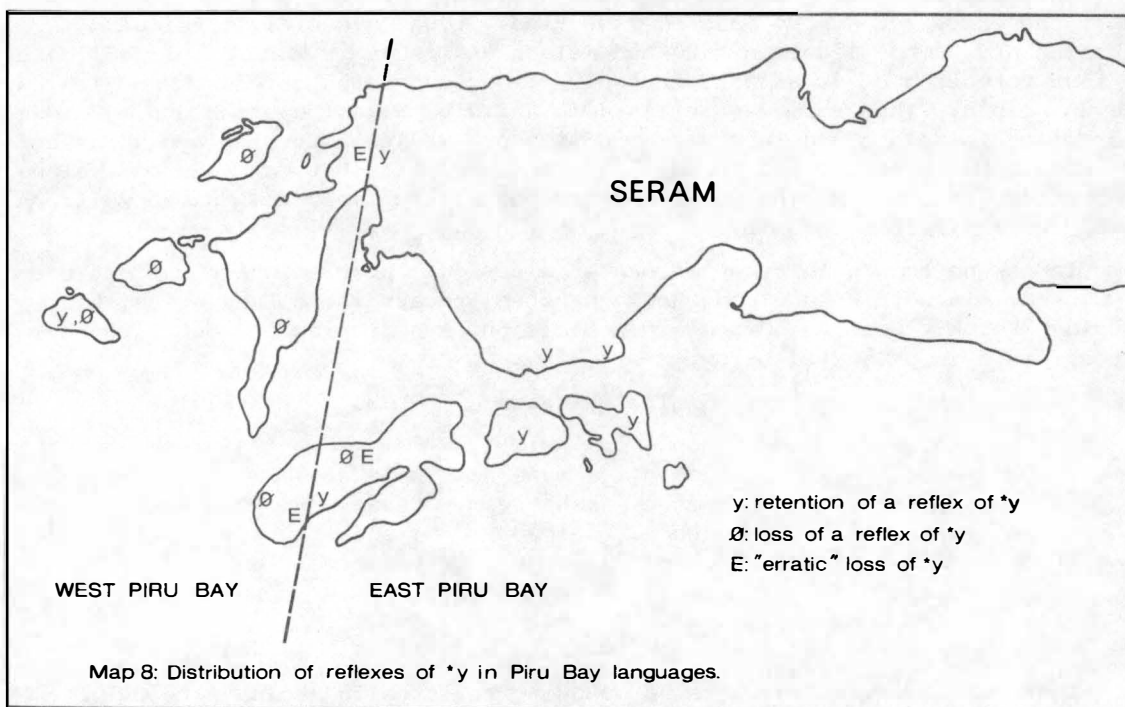
If we conclude that loss of *y was an innovation shared by certain West Piru Bay languages, the family tree we have constructed so far requires drastic revision. Such a diagnostic innovation indicates a closer relationship existed among Boano, Kelang and Asilulu. Specific rules in Wakasihiu, Luhu and Manipa suggest separate branches of West Piru Bay and that implies a four way split in the subgroup.

It is claimed here that the loss of *y in these entries was not a shared innovation but a parallel innovation. Furthermore it is possible that this is not parallel innovation by chance. The close cultural and economic links that now exist in this area argue strongly against chance. Diffusion and borrowing are processes which have played important roles in the languages of the area. Comparing reflexes found in non-West Piru Bay languages is informative.

PAN	Table 2: Reflexes of PAN *y						
	Seram and Uliase				Ambon Island		
	Latu	Haruku	Kamarian	Eti	Hitu	Kaitetu	Laha
*gayam	ʔaʔanno	aen		aene	ain	a:n	ain
*buqaya	huao:	huae	huae	huhai	huaʔe	hua:	huae
*Daya				or-lai		la ¹¹¹	lai
*layaR	liallo	laele	laer	laele	la:l	la:l	laer

All East Piru languages not on Ambon Island display reflexes of *y. On Ambon Island Hitu displays erratic reflexes of *y. Kaitetu (and Seit) uniformly display loss of *y. Of EPB languages on Ambon Island, Laha, an isolated village on the coast of Ambon Bay, alone displays retention of *y in all entries.

A more detailed enumeration of reflexes in the languages of West Piru Bay is also instructive. Of the three Wakasihiu dialects, only in Larike does *Daya become lai; both Wakasihiu and Allang have la. Of the two dialects of Luhu, Piru displays a split lael *sail* but kaʔan *Inocarpus*. These erratic splits and the unusual geographic range of the innovation (loss of *y) suggest borrowing diffusion. A quick look at a map confirms the possibility of borrowing. See Map 8.



While it is not possible to provide incontestable proof, the suggestion is that the innovation of the loss of *y was an innovation in Asilulu which spread to other languages on Ambon Island even to those which are not West Piru Bay languages (Seit, Kaitetu, Hila, Hitu). The only language on Ambon which does not display at least partial loss of *y is Laha, a small village, which is in two ways unique among villages on Ambon Bay: they have not lost their indigenous language, and they are Islamic. Until recently they have been relatively isolated from both the city and Christian villages around them as well as from the Muslim villages some distance away. (See Collins 1981.)

The fact that the village of Asilulu was the market entrepot for the whole north coast of Ambon Island and that their sailing boats ranged the whole length of north Seram makes it not unlikely that this innovation was at first found only in Asilulu. It is probably no coincidence that the parts of Central Maluku which are not traditional ports of call in the Asilulu trade routes are the places where *y has not been lost.

In view of the spread of loss of *y, then, it is tentatively claimed that loss of *y was an innovation which distinguished Asilulu from other West Piru Bay languages. Its subsequent loss or partial loss in most other West Piru Bay languages was spread by borrowing or diffusion. Possibly Manipa's treatment of *y represents a unique innovative split of *y conditioned by its position in the word. If this interpretation is correct, then the family tree that the reflexes of *sayi suggest (see above) is further confirmed. Loss of *y in *sayi and subsequent vowel changes occurred before the loss of *y (in the environment of a_a) in Asilulu. Asilulu's retention of *sei is complemented by its loss of *y.

The treatment of *y in the sequence *uyu was apparently quite different. Under the entry for *duyong* (sea cow) we find *Duyun > luin(e) in Asilulu, Wakasihi and Boano, liune in Luhu and Kelang and leune in Manipa. In all cases we find retention of *y as a high vowel. It is suggested here that in Piru Bay *Duyun > luin. This form was retained in Asilulu, Wakasihi and Boano. Metathesis took place in Kelang and Luhu yielding liun-e. Manipa also displays apparent metathesis but with a vowel change. A closer relation between Luhu and Kelang is implied. Perhaps Manipa should be grouped more closely to Luhu as well. This requires further enquiry.

In making this enquiry we encounter a residual problem which has not been discussed. In both Kelang and Manipa h often appears where Luhu or Asilulu display ? or k. Does this form a new basis for subgrouping in West Piru Bay? The evidence is presented below.

	Manipa	Kelang	Luhu	Asilulu
<i>wood</i>	hen	hai	?ai	?ai
<i>root</i>	wahan	waha?a	wa?a?a	wakan
<i>rafter</i>	hasae	hasae	?asae	?asa
<i>fish</i>	iha ...	ihane	i?ane	i?an
<i>monitor lizard</i>	puhe	puhe	papukewe	pu?e
<i>rotten</i>	puha	puha		pukan
<i>elder brother</i>	haha	haha	?a?a ¹¹²	?a?a
<i>eat</i>	ha?a	haka	ka	kanu

There are a few cases where no matching reflexes in Manipa were elicited to compare to the Kelang entries with h. These are sihai *sand*; totohole *punting pole*; hetu *kind of tuber*. In one case Kelang displays h while Manipa displays zero: nuhae *scabies* compared to nuanu. (Note Luhu nukae.) There are, however, a number of cases where Manipa displays h but Kelang displays k or ?. For example,

	Manipa	Kelang		Manipa	Kelang
<i>iron</i>	kahai	ta?ae	<i>breadfruit</i>	suhune	tu?une
<i>tail</i>	halun	kalu?a	<i>fold</i>	kuhu?e	tu?uke

What conclusions can be drawn from these data?

It is important to note that there is only one case of Kelang displaying h where Manipa displays zero. On the other hand, there are four cases where Manipa has h but Kelang displays ? or k. The argument made here is that Manipa innovated by changing an earlier **? to h. These **?'s originated either from WPB **k or **?; that is some WPB **k and **? merged to h in Manipa. In a few cases this h was lost.¹¹³ At a later stage *t > k in Manipa. In the material available for Manipa (more than two thousand words) all cases of k can be derived from PAN *t. A few examples are presented here.

PAN

*maCa	<i>eye</i>	maka	*batu	<i>stone</i>	haku
*TukTuk	<i>pound</i>	pa-kuki (<i>brawl</i>)	*quti	<i>penis</i>	ki-m
*Tuak	<i>palm wine</i>	kuae	*pukət	<i>net</i>	ueke
*lumut	<i>moss</i>	lumuka	*(Ct)awan	<i>clear</i>	ma-kawa <i>morning star</i>

In Manipa, then, the sequence of sound changes was:

1. **k, **? > h (thereby merging with the reflex of *b)
2. *t > k

The fact that Kelang has entries where **k or **ʔ remain k or ʔ indicates that either there was no innovation in Kelang and that those cases of **k, **ʔ > h are borrowings or that there was an unexplained split in Kelang.

In view of the long-standing influence of Manipa on Kelang, the former possibility seems the more likely. It has been noted the single case of monophthongisation in secondary diphthongs of Kelang was most likely a borrowing from Manipa. Another Manipa innovation was also borrowed into Kelang. With few exceptions word initial vowels were deleted in Manipa; some of the truncated words were borrowed into Kelang.

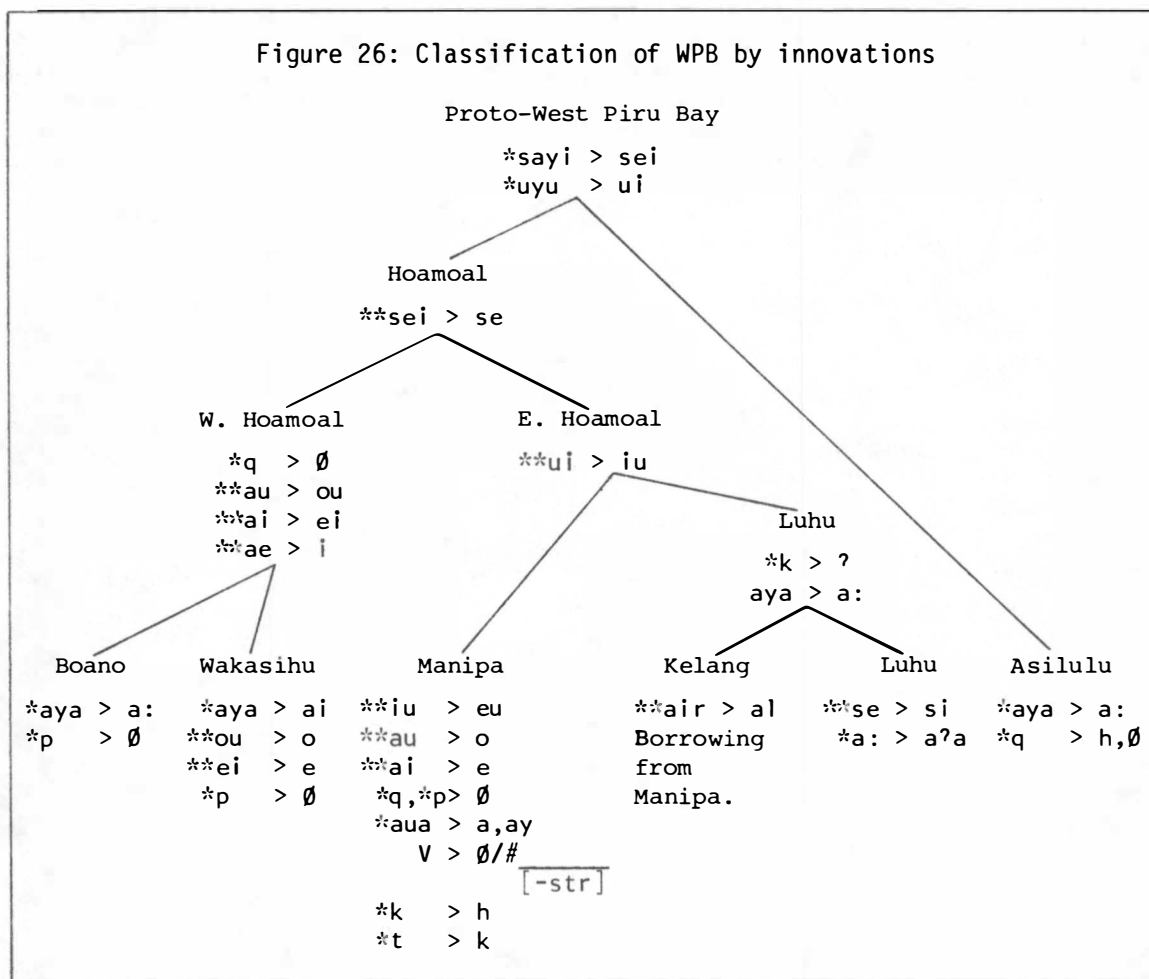
PAN		Manipa	Kelang
*qula	<i>head</i>	lu	lu-ku
*kulit	<i>skin</i>	liʔi	liʔa
*isi	<i>flesh</i>	sin	si-na
*quti	<i>penis</i>	ki-m	ti-ku
*quZan	<i>rain</i>	lane	lane
*umpu	<i>grandparent</i>	pu	pu-ku
*pajəy	<i>rice</i>	lae	ala
*pusuŋ	<i>heart</i>	sun	oso-ku
*kuluR	<i>kind of breadfruit</i>	lule	ulule
*ləsuŋ	<i>pestle</i>	sune	lesune
*puki	<i>vagina</i>	hi-m	
PCM			
**əZan	<i>stairs</i>	lane	elane
**kibon	<i>wing</i>	hoʔi	kihoa
**kitə	<i>lpl (in)</i>	cene	itene
**utun	<i>hundred</i>	kune	utune
**usat	<i>thousand</i>	sake	usate
but			
*asu	<i>dog</i>	asu	asu
*ikan	<i>fish</i>	iha	ihane
*kemi	<i>you all</i>	imine	imine

Again in a number of entries we notice that the Kelang forms do not have the innovation displayed in Manipa. In no cases does Kelang display the innovation where Manipa does not. If Kelang were borrowing forms, the most likely source would be Manipa.

A number of innovations distinguished Manipa from other Piru Bay languages. They include: 1. vowel change in secondary diphthongs; 2. merger of PAN *k and *b (with exceptions); 3. loss of word initial vowels and 4. *PAN *t > *k. The surviving speakers of Kelang have lived on an isolated island in a small village bordered on either side by Manipa-speaking villages for at least three hundred years. It is not surprising that the Kelang language displays numerous irregular borrowings from Manipa. If in the light of the cumulative evidence from Manipa, we recognise these numerous borrowings and set them aside as secondary developments, it is clear that no innovations of the orders discussed distinguish Kelang from Luhu. Consequently the delineation of the family tree gains greater precision. Only the diagnostic innovations discussed so far are included in the tree diagram. Retentions are not specified. The loss of *q and the loss of *p are not considered diagnostic but they are included here in order to indicate the sequence in which these losses occurred in the various languages. The importance of that relative chronology to the genetic classification of these languages has been discussed already.

Although the outline of the family tree is clear, several additional innovations will be discussed in the following section. These innovations support and refine still more the relationships proposed here.

Figure 26: Classification of WPB by innovations



4. Subgrouping of WPB, Part III: Luh, Asilulu, Wakasihu and Batumerah

To conclude the discussion of Proto-West Piru Bay subgroups it is appropriate to consider some detailed innovations in certain descendant languages. The unique innovations which distinguish Manipa have already been discussed. The relationship between Luh and Piru, as well as some innovations which separate the Hoamoal branch of Asilulu, need to be considered. A brief comment about dialects of Asilulu is in order as well. The numerous changes which are characteristic of Wakasihu as well as dialectal differences in that language require fuller exposition. Finally, the position of a now extinct language, Batumerah, should be dealt with because a reasonable amount of vocabulary is available in old wordlists.

Luhu and Hoamoal

Before the seventeenth century disruption of culture and commerce, a single language was spoken the whole length of the Hoamoal peninsula and on nearly contiguous islands such as Asa'ude and Kelang.¹¹⁴ This assertion is based on the oral traditions of the people of Central Maluku as well as the evidence found in the existing languages spoken in Piru (at the head of Piru Bay), Luhu (on the east coast of Hoamoal peninsula near the mouth of the bay) and Kelang-Asa'ude (formerly spoken on those two islands on the west coast of the peninsula). Previous to the research carried out by the writer, no information on the language of Luhu was available. Piru is extensively, though somewhat inaccurately, represented by van Ekris's wordlist (1864-65). Kelang is included in van Doren's meager appendix. The material cited here however is drawn exclusively from the writer's fieldnotes.

Although van Hoëvell (1877:8) asserted that Piru and Luhu formed a single language, this fact has been overlooked both by Stresemann (1927) and, more recently, by Dyen (1978b). Such an oversight is understandable considering that only van Ekris' vocabulary of Piru is accessible. This oversight, however, is an unfortunate historical accident. Piru and Luhu have been separated from each other for centuries.

First the depopulation of Hoamoal removed the chain of villages which once connected them. Then the development of nineteenth century European-owned coconut plantations resulted in the introduction of outsider populations along the whole length of Hoamoal's west coast. Later during their campaign to subdue the Alune villages in the mountains to the north and east, the Dutch established military headquarters in Piru, again introducing large concentrations of non-indigenous people. Furthermore religion also divides Piru, a Christian village, from Luhu, a Muslim one.

Because of all these factors interchange between these two villages has been minimal. In addition, the influx of outsiders into Piru has considerably influenced its language. The most notable result is its near-extinction. Only a handful of Piru speakers, all of them over sixty, can be found in Piru. (In Luhu there are over five thousand speakers of the language at all age levels.) Not surprisingly, the gradual decline of the Piru language is to be seen in certain of its peculiarities.

If one compares Luhu and Piru, one notices no significant sound differences. In some forms, Luhu -e is -i in Piru (for example, hu?ae and hu?ai *hair*). Piru speakers display loss or partial loss of some verbal paradigms. (See Chapter III.) Both the k- and t- conjugations fail to be fully productive. For example, kele *stand* is no longer inflected and both ukahu and u^wahu *I cough* are accepted. Similarly, itapila? and irapila? (*He massages*) are in free variation. The most striking differences, however, are in the vocabulary. A number of words not found in Luhu appear in Piru. In some cases these may be retentions in isolated Piru. But in many cases they seem to be borrowings, mostly from Eti, an East Piru Bay language, only forty minutes walk along the coast from Piru. Some vocabulary is cited below. If the form is found in Piru and Eti but not in Luhu, it is considered a borrowed word in Piru.

	Luhu	Piru	Eti
<i>vein</i>	lelete	tamu	tamu
<i>small</i>	ana?a	kakini?i	kini
<i>flow</i>	a-rala	pahela	pahela
<i>fold</i>	tu?u?u	lou?u	lou?e
<i>outside</i>	lia muli	li teha	li teha

In a few cases Piru may have borrowed words from the Alune language. There have always been Alune villages near Piru, though some are now extinct (e.g. Sole). Examples here are taken from Murikau, one of the Alune villages now geographically closest to Piru.

	Luhu	Piru	Murikau
<i>plait</i>	petu	nana	nana
<i>intestine</i>	hatu?a	ta?ai	tai-

The argument for borrowing from Eti and Alune above is one of elimination: if not Luhu, then it must be Eti (or Alune). This is credible but not too strong because of the possibility of retentions. For example, Piru *nana* could be a retention from PAN **anām* *plait* rather than a borrowing from Alune. There are, however, a number of cases where the sound changes displayed in a certain lexical item indicate that it is a borrowed word.

	Luhu	Piru	Eti
<i>night</i>	melen ¹¹⁵	molon	molon
<i>maternal uncle</i>	meme	momo	momo
<i>barracuda</i>	tanili	taniri	taniri

In addition to the above, where the sound changes ***a* > *o* and ***l* > *r* suggest borrowing from an East Piru Bay language namely Eti, it may be argued that the Piru words *malipe* *fine*, *very small* and *malopi* *attractive* form a doublet pair. If we assume that there was a Proto-Piru Bay word ***maləpi* *fine*, *not coarse*, then East Piru Bay languages like Eti would display *malopi* while West Piru Bay languages like Luhu would yield *malepi*. In fact, Eti displays *malopi* and Luhu displays *malipe* (where metathesis has obscured the connection). That this argument is tenable is confirmed by the Asilulu word which provides the semantic link: *malipe* *very small (of objects)*; *delicate and dainty (of persons)*. So Piru *malipe* is a retention of the PWPB form; but Piru *malopi* is a loanword from Eti. Widespread borrowing in Piru, a dying language, is at the root of the difficulties that Dyen experienced when trying to provide a West Seram subgrouping through lexicostatistical analysis (1978b). He used van Ekris's vocabulary and had no access to Luhu. His conclusions are instructive.

The position of Piru is somewhat difficult to determine. Although it shows its highest percentages with Hatusua and Kaibobo, its percentages with other speech-types disagree with Hatusua's and Kaibobo's so strongly that one is led to believe that the high percentages are due to contact rather than genetic relationship. The percentages with Hilan on the other hand and with Kamarian, Tihulale and Rumakai (the Kamarian nucleus) are barely sufficient for its inclusion in West Coast Seram.

In any case the percentages are so high that dialect borrowing (in some cases presumably not recent) and/or indeterminable interlinguistic borrowing could be reasonably made part of a hypothesis in appropriate circumstances.

(1978b:392)

In this case lexicostatistics fails to provide a sound basis for sub-grouping. Dyen suggests the possibility of "borrowing" or "contact". Without a detailed familiarity with the languages and sociocultural setting of the area it is impossible to reach a clear solution. Although the actual comparisons which Dyen used are, of course, not accessible to us, the data presented above suggest that Piru is a dialect of Luhlu and that lexical differences are, at least in part, due to borrowing from Eti, one of the four dialects which form a distinct language (Eti-Kaibobo-Waesamu-Hatusua). (The last three were identified as a "speech-type" by Dyen (1978b:391).) This language is a clear member of the East Piru Bay branch, so that some of the borrowed words would certainly skew any lexicostatistical computation.

By careful analysis of the sound changes and vocabularies of Piru, Eti, Luhlu and other languages in the area and by bearing in mind the sociocultural relationships involved we have established Piru's membership in West Piru Bay and we have identified the sources of loanwords in its vocabulary — both accomplishments beyond the reach of lexicostatistics.

Asilulu and Hoamoal

Only a few minor sound changes seem to distinguish Hoamoal languages from Asilulu. Indeed, referring to ancient poetry, van Hoëvell (1882:70) writes: "'t Dialect van Hoamohel komt van alle thans bestaande 't meest overeen met dat van Asiloeloe." On the whole, then, these sound changes are not convincing in themselves but should be considered as complements to the innovations discussed earlier. Furthermore some morphological innovations are of importance. It should be noted that both Asilulu and Luhlu share a number of retentions which obscure their differences from each other.

In a number of words Hoamoal languages display ? where Asilulu has k.

	Asilulu	Luhlu	Manipu	Boano
<i>knee</i>	tuku	tu?u	tu?u	
<i>root</i>	wakan	wa?a?a	wahan	a:ʔi
<i>empty</i>	huken	hahue	ahuene	huniʔi
<i>young</i>	kopol	?opole	?opole	?opone
<i>sibling of the opposite sex?</i>	leku	le?u	le?u	ne?u
<i>elbow</i>	siku	si?un	siun	siu
<i>sarong</i>	kalun	?alune	halune	?alune
<i>salty</i>	makasi	ma?asi		ma?asine
<i>slippery</i>	makala	ma?ala		
<i>Artocarpus</i>	nakanakan	na?ana?a	na?ane	nana?ane
<i>sea eel</i>	kapat	?apate	hapake	

Transitive suffix -
-ke in

<i>rub</i>	sosak	sosa?e	(sosa)	(sosa)
<i>recall</i>	pala?ek	pala?e?e	pale?e	palae?e
<i>lean on</i>	hasalek	pasale?e	pasale?e	pasale?e

This apparent uniformity in Hoamoal languages suggests that the contrast (k/?) was present when West Piru Bay split into Asilulu and Hoamoal. This conclusion is both compatible with the supportive of the tree diagram suggested earlier.

Some Hoamoal languages display unexpected raising of **e* in specific lexical items.

	Asilulu	Luhu	Manipa	Boano
<i>rope</i>	walet	walite	walike	anete
<i>kind of fish</i>	keme	kemi		
<i>rudder</i>	lehit	lihit	lihike	lehit
<i>deaf</i>	toʔe	tuiʔi	kuie	tatui

The evidence that this is another innovation separating Hoamoal from Asilulu falters on the Boano material. Still it may at least provide additional evidence of the putative split between West and East Hoamoal. If the shift to *i* was an innovation restricted to East Hoamoal, this limited information is important. The Boano entry *tatui*, however, is problematic.

An important phonological rule distinguishes all Hoamoal languages from Asilulu. Stress in Hoamoal languages is always penultimate; if a suffix or particle is added to the word the stress shifts accordingly. In Asilulu this is not the case. The stress falls on the penultimate syllable of the root word; additions of suffixes do not affect this stress. For example,

	<i>moon</i>	<i>kind of fruit</i>	<i>tomorrow</i>
Asilulu ¹¹⁶	húlan e	ʔúlul e	ráwa e
Luhu	huláne	ulúle	rawáʔe

Note too Asilulu *palaʔekni* [paláʔekən] *recall him* and Luhu *palaʔeʔena* [palaʔeʔéna].

This issue is further complicated by the number of obligatory suffixes and postparticles in the Hoamoal languages.¹¹⁷ In Asilulu there are many productive postparticles while in Luhu these are petrified additions. Apparently certain pronouns in Hoamoal acquired permanent postposed demonstratives, whereas Asilulu which allows proliferation also keeps the word boundary clear.

	Asilulu	Luhu	Manipa	Boano
1sg	aʔu	aʔune	aʔune	aune
2sg	ale	alene	anene	o
3sg	ali	ilene	ine	iale
1pl-2pl	ami	amine	amine	ami ene
1pl-2pl	ite	itene	cene	ite
2pl	imi	imine	imine	imi
3pl	sini	silene	reli	si

Judging from the Boano evidence, at the earliest stage of Hoamoal after its split from Asilulu, only first person exclusive pronouns underwent permanent demonstrative affixation. In East Hoamoal this spread to all pronominal forms. Asilulu, by contrast, has an optional form *aʔu le* or *aʔunde* or *aʔunde le*, meaning *as for me, I*.

This use of demonstratives, even double demonstratives (*aʔunde le this here me*), is an option possible with any pronoun but permanently affixed to none. Nonetheless this may be the starting point for this Hoamoal innovation.

This obligatory penultimate stress rule not only sometimes obscures cognate reflexes but in a few cases seems to be the motivating force for certain vowel deletions in the antepenultimate syllable. All Hoamoal languages agree in vowel deletion in at least two lexical items. Subsequent consonant cluster adjustments, however, differ.

	Asilulu	Luhu	Manipa	Boano
<i>wave</i>	kalulan	kallana	ʔalulana	kalulan
<i>shove</i>	supuleke	sumbeke	sumeʔe	sumeʔe
<i>male</i>	malana	mandae	mannai	meneʔe

The last two entries by their erratic word specific sound changes provide further evidence for the split between Hoamoal and Asilulu.

At least two morphological innovations distinguish Asilulu from Hoamoal. Asilulu, in all its dialects, has lost the n- conjugation and the b- conjugation discussed in Chapter III. The presence of a productive n- conjugation in Manipa indicates its presence in the proto-language, Hoamoal, though it was lost in Luhu, Boano and Wakasihu. All descendants of Hoamoal preserve the b- conjugation. A few examples are given below.

		Asilulu	Luhu	Manipa	Boano
<i>say</i>	1sg	uhatu	hatuʔu	hako	uhatoʔ
	3sg	ihatu	ipatuʔu	pako	ipatoʔ
<i>call</i>	1sg	uheha	heha	heha	uheha
	3sg	iheha	ipeha	peha	ipeha
<i>drink</i>	1sg	uninu	ninu	inu	inu
	3sg	ininu	ininu	ninu	inu

The alternation between h- and p- in the b- conjugation and between Ø and n- in the n- conjugation is a sufficient indication of the productivity in certain of the Hoamoal languages. The absence of alternation in Asilulu indicates the innovative loss of these two conjugations.

There are, then, a number of word-specific sound changes which distinguish Asilulu from the Hoamoal branch, namely the raising of e in certain words and the deletion of antepenultimate vowels. In addition there are several morphological innovations by loss and accretion which justify the branching suggested here.

In discussing inflectional loss it is appropriate to mention that this forms the chief distinction between the main dialects of Asilulu. In Asilulu and Ureng the p- conjugation has been lost. There are a few indications that it has only recently been lost. Speakers over ninety years of age have been recorded using forms such as wanaʔatu *I sent* (from **panaʔatu) whereas younger speakers no longer observe the inflectional alternation and say upanaʔatu.¹¹⁸ There are also cases of doublets in the vocabulary. For example, watapelek *fall on one's back* and patapele *lie across (something)*; watahakan *fall on one's back* and patahakan *sleep on one's back*; patasulu/watasulu *having fallen forward on an angle*. Both Asilulu and Ureng have a doublet puna/una *do, make*; in Asilulu puna is considered archaic but in Ureng both are in use with no distinction for person.

In Henalima, however, speakers of all ages display full retention of the p- conjugation. For example the paradigm for pasanau *sew*.

1sg	wasanau	1pl.ex.	maʔasanau
		1pl.in.	asanau
2sg	apasanau	2pl	ipasanau
3sg	ipasanau	3pl	siasanau

Because Henalima retains the inflectional alternation of the p- conjugation, it is assumed that the Asilulu language also retained the conjugation at the time

of its split from the other West Piru Bay languages. Asilulu, Ureng and Helalima agree in displaying the loss of *n-* and *b-* conjugations. Few other differences distinguish Asilulu dialects; even lexical variety is quite limited.

Wakasihi and its dialects

At this point we consider some of the innovations which distinguish Wakasihi from Boano and other languages in the area. Two phonological innovations are discussed, and then a brief note on the Larike dialect is presented.

One of the distinctive characteristics of Wakasihi is the vowel change which appears in word final *-u* and *-i*. Note these few examples.

PAN

*DuRi	<i>thorn</i>	lule	*susu	<i>breast</i>	suso
*quti	<i>penis</i>	ute	*asu	<i>dog</i>	aso
*puki	<i>vagina</i>	uʔe	*umpu	<i>grandchild</i>	upo
*punti	<i>banana</i>	ure	*batu	<i>stone</i>	hato
*qumansi	<i>breadfruit</i>	umare	*bikuŋ	<i>adze</i>	hiko
*DiRi	<i>post</i>	lile	*səRu	<i>kind of fish</i>	sido ¹¹⁹

Close examination indicates that with few exceptions this phenomenon is restricted to nouns.¹²⁰ Note, *tunu burn*, *hunu strike*, *lihi pull*, *kiʔi bite*, where no such vowel lowering took place. Apparently this vowel change is related to the affixation of the noun marker ***ə*. In compound nouns where no noun marker appears, no vowel change takes place; for example, *manu wala Hornbill* and *manu kito kind of hawk*.

Words ending in *-a* also take the noun marker, ***ə*.

*kasaw	<i>rafter</i>	asai	*tuka	<i>wound</i>	nuai
*KaRəq	<i>blood</i>	lalai			

In the Allang dialect there are many cases of nouns ending in continuants which also take a noun marker.

*aŋin	> aninu	<i>wind</i>	*kawil	> awilu	<i>hook</i>
*quZan	> ulanu	<i>rain</i>	*ma(n)sər	> marilu	<i>marsupial</i>

Tentatively it is proposed that in Wakasihi the noun marker ***ə* became *-o* after continuants and *u* but ***ə* became *-e* elsewhere. This resulted in numerous cases of secondary diphthongs. These vowel sequences occurred in the language after the vowel changes discussed in section 2 of this chapter. These late vowel sequences were subject to certain other changes. Sequences of ***uo* became *o*, for example ***susu+o* > *suso breast*; sequences of ***ie* became *e*, for example ***diri+e* > *lile post*. In sequences of ***ae* dissimilation occurred which raised ***e*, that is [+lo], to *i*, that is [-lo]; for example, **kasaw* > *ʔasa+e* > *asai rafter*.¹²¹

A second characteristic development involves the treatment of ***ma-*. There are numerous instances where ***ma-* undergoes considerable change. There are apparently two or three treatments.

In the first set we find ***ma-* before liquids:

PAN	*maRuqanay	> undana	<i>male</i>	PCM	**maluʔu	> unduʔo	<i>eel</i>
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Presumably vowel deletion occurred resulting in the sequence **mlu* in both words. Then there was a shift of the liquid in that sequence of nasal + liquid to a

/d/, the nearest stop. Later homorganic adjustment of the nasal to that stop took place. In short, ***m* > *md* > *nd*. A later rule supplied vocalisation to the first syllable. Perhaps the vowel of the following syllable was copied. Or, perhaps, the rule was earlier and supplied a vowel copy of the first consonant; that is *u* a labial (rounded) vowel was supplied to match the *m*, before *m* became *n*.

Note that this treatment is not restricted to ***ma-* prefixes. It apparently involves other sequences of nasal plus apical, even over word boundaries.

In Wakasihi there is the compound noun *hunduma* *fight, brawl*. Compare this to *hunu strike* and *luma each other*. We can suppose a series of events *hunuluma* > *hunluma* > *hunduma*. Similarly the Allang dialect has an entry *kandounu betel leaf*, apparently from *kamu betel* and *lounu leaf*. Again we trace a history of vowel deletion and shift of liquid to stop: *kamulounu* > *kamlounu* > *kandounu*.

There is, however, another treatment of ***ma-* before **t* and **s*.

PAN <i>*matakut</i> > <i>intaʔu</i> <i>fear</i>	PCM <i>**masalu</i> > <i>insalu</i> <i>straight</i>
<i>*matuqaS</i> > <i>intua</i> <i>old</i>	<i>**matola</i> > <i>intola</i> <i>pretty</i>

Although the results are different the process is the same: deletion of the vowel, homorganic shift of the nasal, vocalisation of the first syllable.

Two more examples suggest other problems. In West Piru Bay we find ***maniwa thin*. (Compare to PAN **manipis*.) In Wakasihi it became *iniwa*. Here too there is apparent vowel deletion. The resulting sequence of ***mn* > *nn*. After the application of the vocalisation rule one of the *n*'s was deleted: ***man* > *mn* > *nn* > *inn* > *in*.

Another form *tulo sleep* raises its own problems. It does not conform to the treatment for verbals beginning with **t-*, assuming that this derives from the form PAN **matuDUR sleep*. If it is possible however that this form does not derive from a verb. The fact that final *-u* has shifted to *o* suggests the earlier presence of a noun marker. Another WPB language, Asilulu, in addition to *matulu sleep* displays nouns *tulul slumber* and *tulu helua sleep-time (about 10 p.m.)*. Tentatively then *tulo* does not derive from the PAN verb **ma-tuDUR to sleep* but from the PAN noun **tuDUR slumber*.

In summary then the diversity of the forms of the words which derive from words beginning with ***ma-* belies the single change they underwent. This rule however is not restricted to ***ma-* forms. Note the entries for 'betel leaf' and 'brawl'. In fact, the suggestion is that the initial impetus for deletion of the vowel was related to stress. No changes take place in forms like *manu* (< **maqapuD*) *drift* and *mata* (< **maCa*) *eye*. This apparent connection with a penultimate stress rule confirms its membership in the Hoamoal branch of the West Piru Bay group, though the details especially regarding vocalisation require more enquiry.

A final note should be made of the split in Wakasihi dialects: Wakasihi, Allang and Larike. The dialects of Wakasihi and Allang are not differentiated by any significant sound changes. The fact that Allang¹²² is nearing extinction means that that the morphological system and lexicon are gradually eroding. But so far as is determinable these two villages share the same dialect. In Larike, though, an interesting innovation has taken place. As with most other West Piru Bay languages Wakasihi has merged **Z*, **D*, **j*, **l*, **R* to ***l*. A later change took place in Larike: ***l* in the environment of the high vowels became *d*.

PAN *qulu > udo *head*
 *pija > ida *how many*
 *DuRi > dude *bone*
 *Rumaq > duma *house*

PAN *pajəy > ala *rice*
 *ajan > nala *name*
 *Daqun > loun *leaf*

This appears to be a recent change. In dude *bone*, however, it must have preceded the shift of **ie to -e. Nonetheless older wordlists of Larike record only l or r.¹²³ This sound change is the only one which distinguishes Wakasihu and Allang from Larike.

Batumerah, extinct but familiar

One more language should be considered here. Until only a few generations ago the village of Batumerah on Ambon Island spoke an indigenous language. Although it is now extinct, lost in the rapid urbanisation of the environs of Ambon city, three wordlists survive from the mid-nineteenth century. Between 1862 and 1869 van der Crab, Ludeking and Wallace published brief wordlists; the combined total of distinct entries is about five hundred words. Wordlists of that period, of course, must be used with considerable care since both the author's transcription and the printer's typesetting might be inaccurate. Stresemann especially criticised Ludeking's lists. Nonetheless with no other material available, we proceed with caution. The orthography used here will follow the original versions.

That Batumerah is a descendant of Proto-Piru Bay is clear. Although there is no reflex of *DəŋəR to evaluate, the other criteria are relevant. PAN *b > h in *qabaRa > hala *shoulder*, *bukəS > hua *hair*, *babuy > hahu *pig*. PAN *w > w in *waSiR > weyl *water* and *walu > walua *eight*. Furthermore evidence that it is a West Piru Bay language is available. PCM **ŋg > k in PAN *baŋkaŋ > haka *boat* and PCM **mberŋga > pekae *tuna*. PCM **nd > r in PCM **mansel > marela *marsupial*, **mandamal > maramale *north wind*, **ndaqu > awow¹²⁴ *red* as well as in inflected verbal forms *TukTuk > roetoe *pound*, *taŋis > irane *weep*, *susu > roesoe *suckle*, *ta-buRa > irahoela *spit*. That PECM **e and **ə merged is apparent from the following entries: *ənəm > nena *six*, *pusəj > oese *navel*, *Dəpa > lea *fathom*, *bəli > a-heli *sell*.

Stresemann (1927:138) noted several Batumerah words in which it seemed that the PAN diphthong *ay was retained. If this were so, Batumerah would stand alone among the descendants of Proto-Piru Bay. In Chapter IV it was demonstrated that Alune retained *aw and, possibly, *uy in the reflexes of certain nouns. The innovative affixation of the noun-marker *-ə at an early stage resulted in this retention. In Batumerah, however, the relatively late affixation of the noun-marker *-ə has resulted in the vowel sequences which at first glance appear to be reflexes of the PAN diphthong *ay.

The words which Stresemann cited include PAN *maRuqanay > manday *man* and PAN *pajəy > alay *rice*. In addition to these words where -ay (variously transcribed as 'ai' or 'aj' by the early writers) appears to correspond to *ay, we note the doublet pair ma-hinay and mahina from PAN *binay *woman*. This suggests that Batumerah like Luhu and other Hoamoal languages displays suffixation of *-ə to all nouns ending in -a. In the wordlists we also note nukay *wound* from *tu(ŋ)ka, ahay *thread* from *kaba(Ct) and lalay *blood* from *daRəq. In view of these entries we conclude that the final high vowel which appears in manday or alay is not an indication of retention of PAN *ay. Rather, it is a reflex of

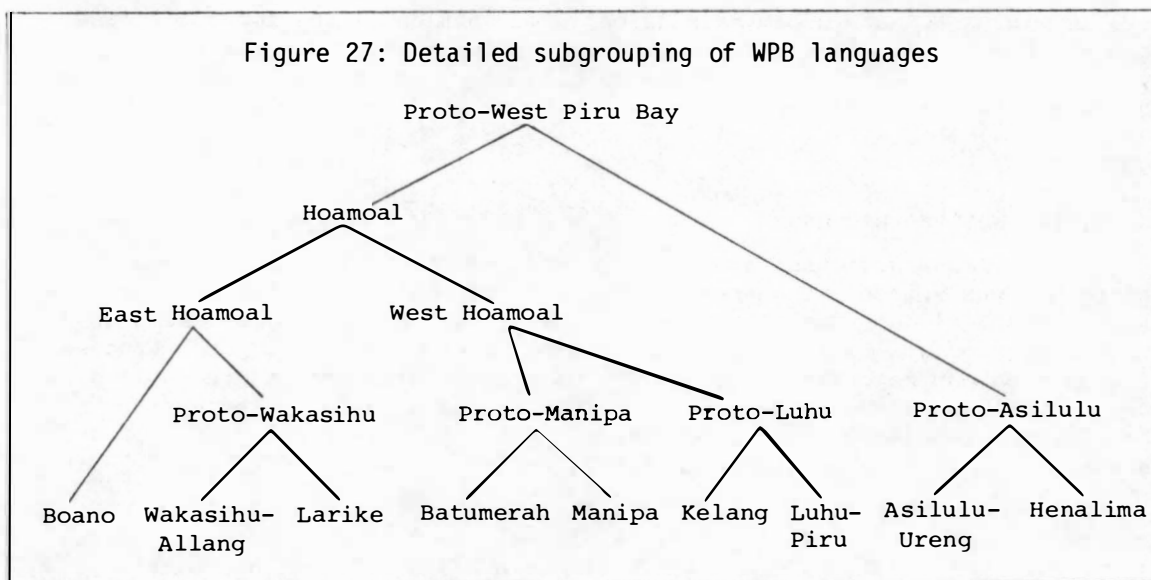
PCM *-ə, noun marker. This late affixation of the noun marker confirms Batumerah's membership in Hoamoal. See the remarks on page 82.

Because the corpus is limited it is not possible to acquire an absolutely clear notion about further classification of Batumerah. Based, however, on the treatment of vowels in secondary diphthongs, there are grounds for associating the language of Batumerah with Manipa. We note, first, that like all West Piru Bay languages no elision took place after the loss of *p, *Xapuy > aow *fire*. In the PCM entries **aqi > ai *leg* and **ndaqu > awow, raoew *red*, neither Batumerah reflex displays the late elision rule demonstrated in Boano and Wakasihi. More importantly the reflex of **taqun *full* is touna. This displays the same elision of **au in open syllables that we observed in Manipa. Parallel to this evidence is the entry for PAN *Zauq, laoe *far* indicating no elision in closed syllables. Wallace's entry for *waSir > weyl *water*¹²⁵ supports the likelihood that both **ai and *au underwent elision in open syllables before the loss of *p and *q. Judging from this evidence Manipa and Batumerah shared the same quite distinctive innovation.

There are some conflicting data in the wordlists. Luhu and Batumerah seem to share some vocabulary items. In some of these cases though, it can be argued that the lexical differences between Batumerah and Manipa are due to later innovations in Manipa. The most troublesome entry is Batumerah *simara who* which indicates a shared innovation with Luhu. Here too borrowing is possible. On the whole the phonological evidence based on diphthong elision rules and their ordering with respect to the loss of *q weighs very heavily in favour of considering Batumerah and Manipa members of the same subgroup. It is interesting to note that both languages display h in the entry for *iron*: tahai/kahai < **ta'a. By itself this could be a printer's error or a transcriber's idiosyncrasy. However taken with the shared innovation of vowel elision this provides complementary support for the position taken here.

In view of the preceding remarks concerning the dialects of the West Piru Bay languages as well as the tentative position of Batumerah, a detailed family tree emerges.

Figure 27: Detailed subgrouping of WPB languages



5. Mergers and retentions in Boano and Asilulu

Stresemann includes the languages of Boano, Kelang and Manipa in the language family he calls 'Ur-Ambon'. He does this without hesitation although he notes (1927:12) that it is not clear whether these languages are most closely related to the languages of Buru or of Seram. His uncertainty was undoubtedly caused by the paucity of material available to him. Apparently only the brief wordlists appended to van Doren (1859) formed the corpus of data regarding these three languages; that is Stresemann had only about thirty words from each language.

In the course of my fieldwork in those villages where Boano, Kelang and Manipa are still spoken, it became very clear that these languages are descendants of Proto-East Central Maluku. Thus, these three languages are related to the other languages of western Seram more closely than they are related to any other language or language group. While geographically proximate to Buru, their linguistic position is far removed from Buru. In fact in the preceding pages the close and complex relationships of these languages to other Hoamoal languages have been demonstrated.

Having recognised their close relationship to other descendants of Proto-Piru Bay, a close analysis of the accumulated data reveals striking evidence that Boano has retained certain phonetic contrasts which Stresemann thought had been lost at a much earlier stage in the history of the languages of this area. Furthermore, the phonetic details of these retentions in Boano interfit with some otherwise unexplained 'irregularities' in Asilulu and other Central Maluku languages.

In question here are the reflexes of PAN *l, *ʔ, *R, *j, *d/D, *z/Z and *n. Boano suggests a retention of a distinct reflex for *d/D and *z/Z which contrasts with the reflex for *R, *l and *j. And the data from Asilulu indicate retention of a reflex of *ʔ which in all positions is distinct from *l. These two retentions must be acknowledged to have occurred in the proto-language of these two languages. Hence, our understanding of the inventory of the proto-sounds in Proto-Central Maluku must be revised. Indeed, the Asilulu evidence presented here impels us to make another revision in our notion of the sounds of non-Formosan languages, Blust's Proto-Malayo-Polynesian. The details of this evidence are set forth below. First we will consider the material from Boano. Following that, a brief exposition of the relevant data from Asilulu appears.

Boano, the western witness

In *Die Lauterscheinungen* one of the first problems that Stresemann approached was the confusing array of reflexes of what we now call PAN *z/Z, *j, *R, *r, *d/D, *l. In West Seram he resolved these problems by assuming an early merger of all these sounds. According to him, this **l, reconstructed for the subgroup he called 'Sub-Ambon', underwent later conditioned splits in many of the West Seram languages. Notwithstanding a number of exceptions in the relevant languages, he listed five major treatments of **l, three of which he summarised in complicated grids (1927:28-29).

The Boano material indicates that Stresemann's initial assumption was incorrect. PAN *z/Z, *j, *R, *d/D, *l did not merge in the proto-language of West Seram. At a later stage mergers did take place in many languages and these changes are succinctly summarised in Stresemann's 'Liquida Gesteze'. It is

demonstrated here that Boano is a member of a West Seram branch of East Central Maluku languages and, in fact, is most closely associated with a coastal group ranging down either side of Piru Bay and elsewhere. Any retentions in Boano, then, are retentions found in the common ancestral language of West Seram.

In Boano, with only one exception, *l* reflects PAN **z/Z* and **d/D*.

*muDəSi	<i>back</i>	mulɪ	*datu	<i>chief</i>	latu
*daRəq	<i>blood</i>	lala	*Daki	<i>dirt</i>	lai-a
*duRi	<i>thorn</i>	luli	*sa(n)Dər	<i>lean</i>	pa-sale-ʔe
*SaDiRi	<i>post</i>	lili	*Dabuk	<i>dust</i>	lahuʔi
*kuDəŋ	<i>pot</i>	ulen	*dugaq	<i>soft</i>	mu-luka-ʔi
*Duyun	<i>seacow</i>	luine	*muda	<i>young</i>	mula-ʔi ¹²⁶
*Daya	<i>land</i>	la:	*Dəpa	<i>fathom</i>	lea
*siDuk	<i>ladle</i>	silu ¹²⁷	*dəŋəR	<i>hear</i>	pama-nene
*kə(d/D)əŋ	<i>stand</i>	ele	*quZan	<i>rain</i>	ulane
*tu(n)Duq	<i>eaves</i>	-tulu	*qazay	<i>jaw</i>	ala-
*DuSa	<i>two</i>	lua	*Zalan	<i>path</i>	lalane
*Daləm	<i>in</i>	-lale	*SaRəZan	<i>stair</i>	elane ¹²⁸

The single exception, **dəŋəR* > -nene, is due to assimilation to the following *N* (< **n*). This is a very old assimilatory change which antedated the split up of the Piru Bay languages, all of which display -nene as a reflex of **dəŋəR*.¹²⁹

On the other hand, with only two apparent exceptions, **j* > *n*.

*pija	<i>HM</i>	ina	*Suaji	<i>sibling</i>	ani-a
*ŋajan	<i>name</i>	nana	* (n)səjəm	<i>wasp</i>	renete ¹³⁰
*qijun	<i>nose</i>	ninu ¹³¹	*pajəy	<i>rice</i>	ala
*qapəju	<i>gall</i>	nenu ¹³¹	*maja	<i>dry</i>	ka-mala

There are two exceptions, *ala* (*rice*)¹³² and *kamala* found only in the idiom *kamala sele thirsty*.¹³³

PAN **d/D* and **z/Z* merged in Boano; they display a single reflex and this sound is distinguished clearly from the reflex of **j*. PAN **l* displays a conditioned split which has led to partial merger with both **j* and **d* (from **d/D* and **z/Z*). In word initial position **l* > *n* when followed by *i* or when *n* appears in the following syllable. Otherwise word initial **l* remained *l*. Intervocalic **l* > *n*, with few exceptions.

*luaq	<i>vomit</i>	lua	*linaw	<i>calm</i>	nina
*lasəR	<i>testicle</i>	lase	*lian	<i>cave</i>	niane
*lawan	<i>opposite</i>	la: ¹³⁴	*lipan	<i>centipede</i>	niniane
*lanəkəwas	<i>a spice</i>	lakuase ¹³⁵	*li(ŋ)kər	<i>coil</i>	neʔe
*lumut	<i>moss</i>	lumute	*qulu	<i>head</i>	unu
*ləkəb	<i>close</i>	a-leʔe ¹³⁶	*bulu	<i>fur</i>	hunu
*lu(n)puk	<i>cluster</i>	paka-lupu ¹³⁷	*bulan	<i>moon</i>	hunane
*laSud	<i>sea</i>	lo-nsa ¹³⁸	*təlu	<i>three</i>	tenu
*ləbiq	<i>extra</i>	lohi ¹³⁹	*qaSəlu	<i>pestle</i>	anu
*luluD	<i>shudder</i>	ra-lolo-ʔe- ¹⁴⁰	*ma-təlu	<i>thick</i>	ha-tenu
*ləlu	<i>swallow</i>	elu ¹⁴¹	*quluR	<i>let down</i>	m-unu ¹⁴²
*lima	<i>hand</i>	nima	*piliq	<i>choose</i>	para-ini-ʔe
*limas	<i>bailer</i>	limate	*balik	<i>return</i>	hani ¹⁴³
*lanjit	<i>sky</i>	nanite	*kalaw	<i>hornbill</i>	ala-wele
*layaR	<i>sail</i>	na:n	*tuli	<i>earwax</i>	tilu

It is worthwhile considering some of the apparent exceptions. In the reflex of *luluD (namely, ra-lolo-ʔe-i) the intervocalic l has not shifted to n as predicted. It is claimed here that intervocalic *l became n with the condition that the preceding syllable did not contain *l. That is, the configuration of |Vl resisted the change *l > n/V_V. This claim is strengthened by the observation *ləlu > elu (*swallow*). Here *l is retained in intervocalic position, although rather recently the initial l was unexplainably lost. A further, more complicated confirmation of this claim is the entry limate (*bailer*). A first glance this is an exception to the shift of *l > n/#_i. However, this is not the case; in fact, this falls under the sound change we are discussing here: the configuration of |Vl. Note the unexpected -te. The PAN form *limas ends in *s; in Maluku languages *s > Ø/#_. What then is -te?

As discussed in Chapter II the descendants of PCM display a morphological process whereby verbs are nominalised by reduplication of the first consonant and affixation of -te. In Boano we note tehu *to scoop* and tatehute *spoon*; sua *pry out* and sasuate *a kind of spatula*; pana *twist (rope)* and papanate *a kind of rope spool*. Boano limate derives from a verb **lima meaning *bail*; it underwent the morphological process which makes instrumental nouns out of verbs: lima > lalimate. At a more recent time, after the shift of intervocalic l (not in the |Vl configuration under discussion) to n, the first syllable, the reduplicated affix, was deleted. That is *C₁aC₁V > C₁C₁V > C₁V. This deletion is unexplained but not uncommon. Note tutuhau huhu- *to sit with knees clasped and head bent forward* (lit. *strike, extremity*) and tuhaute *mallet*. The expected *tatutuhaute has been reduced by deletion of initial syllables. In related languages (for example, Asilulu) we find sia *search out nits and lice in another's hair*; in Boano siate means *a fine mesh basket used to filter impurities from uncooked rice*, presumably from an earlier **siasiate.

All this points to a qualification in the conditioned change of *l to n; namely, *l > n/CV_V where C is not l. Nonetheless a few unexplained exceptions remain: ala wele (*hornbill*) and tilu (*earwax*).

The treatment of *R, *r is not so straightforward. Every provisional generalisation has exceptions.

*R > n/_#			*R > n/[-lo]_[-lo]		
*layaR	<i>sail</i>	na:n	*irid	<i>drag</i>	ine ¹⁴⁴
			*tuRun	<i>descend</i>	tunu
*niuR	<i>coconut</i>	niene	*tiRəm	<i>oyster</i>	tinene
*waSiR	<i>water</i>	eneʔe	*taburi	<i>conch</i>	tahuni
*busuR	<i>bow</i>	husune	*kuRita	<i>octopus</i>	a-unita
			*buRuk	<i>rotten</i>	ma-hunu
but			but		
*butiR	<i>wart</i>	hutile	*iriR	<i>to fan</i>	ile

*R > l/#_		
*Ribut	<i>storm</i>	lihute
*Rambu	<i>fibre</i>	lapune ¹⁴⁵
*rumbia	<i>sago</i>	lipia
but		
*Rumaq	<i>house</i>	numa
*Rusuk	<i>rib</i>	nusu

In some cases there are clear unconditional splits of *R.

*R > n, 1/[-hi]_[+hi]			*R > n, 1/[-hi]_[-hi]		
*taRuq	<i>put</i>	tanuʔe	*ma-bəqəRat	<i>heavy</i>	me-hana
*paRi	<i>rayfish</i>	ani	*qabaRa	<i>shoulder</i>	hana
*baqəRu	<i>new</i>	henu	*baRaQ	<i>ember</i>	au hala
*sakaRu	<i>reef</i>	saʔalu	*təRab	<i>belch</i>	ma-rola
*səRu	<i>garfish</i>	selu	*naRa	<i>k.o. tree</i>	nala ¹⁴⁶
*ma-baRiw	<i>stale</i>	ka-peli			

*R > n, 1/[+hi]_[-hi]

*quRat	<i>vein</i>	unate
*buRa	<i>spray</i>	tu-huna ¹⁴⁷
*suRat	<i>write</i>	sula ¹⁴⁸
*timəRaQ	<i>tin</i>	tamulaʔi

The erratic split of the reflexes of *R suggests extensive borrowing.¹⁴⁹ Which was borrowed, the n or the l? There are two indications that l is the borrowed reflex of *R. First, shifts of *R to n are important parts of neatly arranged sequences of sound changes to be shown below. The explanatory power of that series of changes which must include the change of *R to n is a persuasive argument for the validity of the claim that *R > n. Second, there is no language which could be a clear source of borrowing for these n's; whereas there are innumerable likely sources for a borrowed l.

First, the interrelated sequence of sound changes is outlined here.

Proposed sequence of sound changes of **d, *R and *l in Boano.

- | | | |
|-----------------------------------|---------------------|----------------|
| 1. **d > n/_Vn | *dəŋəR > pama-nene | <i>hear</i> |
| 2. *R > n/_# | *busuR > husune | <i>bow</i> |
| 3. *l > n/_Vn | *layaR > na:n | <i>sail</i> |
| 4. *l, *R > n/CV_V, (where C≠l,d) | *qaSəlu > anu | <i>pestle</i> |
| | *tuRun > tunu | <i>descend</i> |
| 5. **d > l | *kuDən > ulen | <i>pot</i> |
| 6. *R > l/CV_V, (C=l) | *DuRi > luRi > luli | <i>thorn</i> |
| 7. *l > n/_#_i | *lima > nima | <i>hand</i> |
| 8. *R > n/_#_u | *Rumaq > numa | <i>house</i> |

In order to explain the widespread presence of -nene as a reflex of *dəŋəR throughout West Seram we must assume that at an early stage 1. **d > n/_Vn. At a later period in Boano itself 2. *R > n/_# and this must have preceded the shift 3. *l > n/_Vn (in order to explain *layaR > na:n *sail*).¹⁵⁰ Furthermore since *saDəR > pa-sale-ʔe *lean*, the shift of **d to l must have followed the merger of *R and *l to n in certain intervocalic positions (that is Rule 4.). The change of Rule 5., **d > l, preceded the assimilatory shift of 6., namely *R > l/CV_V where C is l, for example, *DuRi > luRi *thorn* and *daRəq > laRəq > lala *blood*. Based on our data, the changes 7. and 8. need not be ordered with respect to the necessarily consecutive sequences of 1-6. However, it is possible to consider that 7. and 8. are a single change. Consider that *l and *R became n before the vowel closest to its own articulatory position; that is when l

preceded the front high vowel it became *n*; when **R* preceded a velar vowel (that is a back vowel) it became *n*, possibly by way of ***ŋu*-.

While **l* and **R*, in this interpretation, do not completely merge, their intricate connection with each other and with ***d* are easily apparent. No such interlocking sequence of events can be ascertained if we were to suppose that **R* > *l*.

A second compelling argument for **R* > *n* rather than **R* > *l* is to be found when we consider the languages which are possible contributors for borrowings. If we say that **R* > *n*, then it is easy to find likely contributing languages for all those unexpected cases of *l*. All but a few languages of nearby mainland Seram, all the languages of the nearest islands (Kelang and Manipa) and all the languages of northwest Ambon Island (that is those languages spoken by sailors and traders) reflect **R* > *l*. Indeed some of the specific items in Boano are clear candidates for borrowing, for example, **timəRaq* > *tamulaʔi tɪn*.

While possible sources for a borrowed word with *l* are innumerable, this is not the case for possible borrowed words containing *n*. Only one other language in the West Seram area displays *n* as a reflex of **R*. This is Lisabata-Noniali. Indeed, Stresemann tells us (1927:24) that Lisabata merges **D*, **Z*, **r*, **j*, **l* to *n*. Lisabata is spoken in three far-flung maritime settlements on the north coast of West Seram; each village is between twenty and thirty-five km from the next. These villages are: Lisabata Timur, Sukaraja and Lisabata Barat.

Noniali, a slightly different dialect, is spoken in Noniali (a village adjacent to Lisabata Barat), in old Taniwel (6 km east of Noniali) and, very recently,¹⁵¹ in Kawa twenty-five km west of Noniali, directly across the straits from Boano. Since none of the Noniali-speaking villages are seafaring and all are quite small, they are unlikely sources for borrowing. The only possible contributing language would be the Lisabata dialect, thirty-five km east of Boano.

For this reason it is surprising that in a number of reflexes Lisabata displays *l* where Boano has *n*. There are also a number of Boano cognates which have no counterpart in Lisabata.

	Boano	Lisabata		Boano	Lisabata
* <i>paRi</i>	<i>ani</i>	<i>ali</i>	* <i>buRuk</i>	<i>mahunu</i>	-
* <i>waSiR</i>	<i>eneʔe</i>	<i>saele</i>	* <i>taRuq</i>	<i>tanuʔe</i>	-
* <i>waRəj</i>	<i>anete</i>	<i>walete</i>	* <i>irid</i>	<i>ine</i>	-
* <i>quRat</i>	<i>unate</i>	-	* <i>tuRun</i>	<i>tunu</i>	-
* <i>tiRəm</i>	<i>tinene</i>	-			

The point is that there is no known contributing source for a number of cases of **R* > *n* in Boano. This is a strong indication that the shift of **R* to *n* was an indigenous innovation in Boano. It was probably a change that took place in stages, gradually including **R* in more and more environments, perhaps in the sequence of events suggested above. The unexpected occurrences of *l* as a reflex of **R* are considered loanwords for which there are numerous likely sources.

We know that Boano is a descendant of Proto-West Piru Bay and that it is closely related to Wakasihi. Wakasihi and all other West Piru Bay languages display the merger of **l*, **R*, **j*, **z/Z* and **d/D* which Stresemann described. Because this is so, the importance of Boano in the reconstruction of Proto-East Central Maluku is clear. First, if Boano retains distinct reflexes for **d/D* and **z/Z* as well as **j*, **l* and **R*, then Proto-Central Maluku must have retained

that distinction. Second, if the close relationship between Boano and the Piru Bay languages is real, then that branch of PECM must have retained the same distinctions found in Boano. In other words, the other Piru Bay languages innovated by merging distinctions found in their ancestral language, Proto Piru Bay.

These two conclusions are important. Acknowledging possible retention of a district reflex of *j in Boano not only forces a radical divergence from Stresemann's hypothesis regarding the phonological makeup of Seram's ancestral language but it also necessitates reconsideration of certain languages excluded by Stresemann from the Seram language group. The language of Geser-Goram (also called 'Seran-Laut') was excluded by Stresemann largely because *j has merged with *s. If one views this merger from the point of view that it meant that *j did not merge with *R and *Z/D (> r) and *l (> l), then there are grounds for considering Geser-Goram a member of ECM. This connection will not be dealt with here.

Another important conclusion follows from the close relationship of Boano to languages of Piru Bay. Not only is it clear that until a very late stage the Piru Bay languages must have retained distinct reflexes of *Z/D, *l, *j and *R but also that the fact that other West Seram languages (Alune, Wemale, etc.) have also merged these sounds does not necessarily indicate a close relationship to Piru Bay languages. Rather this widespread multiple merger appears to have been a case of parallel innovation. Whether this was accomplished through multi-layered borrowing or phonological diffusion is not clear. The regularity of the merger in Asilulu suggests the latter. On the other hand the appearance of two reflexes for the merged sound (**l) in Hitu (**l > l, r) as well as other languages suggests heavy borrowing. Whatever the mechanism, we must recognise that one of the innovations supposed to distinguish the languages of West Seram from those of East Seram has been proven to be an unreliable basis for such subdividing. Dyen's belief¹⁵² that the languages of West Seram and East Seram are more closely related than Stresemann indicated appears to be correct.

Assimilation, substrata, borrowing and Formosan evidence

The Boano data presented here puts to rest the claim that *R, *j, *D, *Z and *l merged in the proto-language of western Seram (Stresemann (1927)). Certainly, at least *D and *Z were distinct from the reflexes of *j, *R and *l. Additional evidence from the geographically remote descendants of Proto-East Piru Bay is forthcoming in Chapter VI. Consequently, the partial retention in Proto-Piru Bay of distinctions in the palatal and apical series of the PAN sound inventory is easily demonstrable. Nonetheless a residual problem remains. How was it that in Boano, with few exceptions, *j, *R and *l became n? This is a troubling phonetic change. What factors could have been involved? There are several possible arguments: phonetic environment, substratum influences, borrowing or earlier merger with some other PAN sound. Each possibility is considered briefly here.

Certainly in some words, for example *lima > nima *hand*, we can argue that initial *l shifted to n through a series of phonetically conditioned changes. First initial *l became *λ before high front vowels. Then [-nas] became [+nas] in the environment of #^V[+liq] [+hi] [+nas] that is *lima > λima > nima. In Boano this nasal, *n (from *λ) became n: **nima > nima.

In still other words we noted that *l became n apparently by assimilation to n in the following syllable; for example, *layaR > *layan > *nayan > na:n *sail*.

Although in some words the shift to n can be explained in terms of assimilatory innovations, there remain other words where such an argument is not convincing. For example, *R > n/CV_V as in *tuRun > tunu *descend*. Earlier authors, including Stresemann, have appealed to a 'Papuan' substratum to explain syntactic or lexical oddities. This claim is obviously vague and imprecise. Nonetheless, perhaps the widespread shift to n can be attributed to such a non-Austronesian substratum.

We know that the islands to the north of Seram, namely Halmahera, Ternate, Tidore and Makian, as well as certain islands to the south, namely Timor, Alor, Pantar and Kisar, are populated by speakers of non-Austronesian languages. (See Huetting 1907, van der Veen 1915, Stokhof 1975 and Cowan 1965.) These are thought by some (Greenverb 1971 et al.) to be related to each other and the non-Austronesian languages of New Guinea, though little solid evidence has been presented.

Regardless of their genetic affiliation we know that they are not Austronesian. These non-Austronesian languages were once more widespread. Blust's recent research (1978a) regarding the Austronesian languages of South Halmahera indicates that these Austronesian languages only relatively recently came to be spoken on Halmahera. They spread from the north coast of Western New Guinea where closely related Austronesian languages are spoken. Presumably at an earlier period all of Halmahera was populated by non-Austronesian speaking peoples.

Among the existing and, indeed, thriving non-Austronesian languages of Halmahera is Tobelo. It is spoken in northernmost Halmahera. One of the striking phonetic characteristics of Tobelo, at least in certain dialects, is a contrast between /l/ and /λ/ (van der Veen 1915). It is not unlikely, however, that *λ must be reconstructed in the ancestral language of North Halmahera.¹⁵³ If a language related to Tobelo and the non-Austronesian languages of North Halmahera was spoken once in Seram, this /λ/ could have been the starting point for the shift to n in Boano. That is *j, *R and *l became *λ. Later this *λ merged with *n. This approach begs several questions. There is, for example, no solid evidence that Seram was ever populated by non-Austronesian peoples. If it was, it is not clear that their languages were necessarily related to existing non-Austronesian languages elsewhere. Izzo (1972) and others before him have pointed to the unacceptability of relying on substratum languages to explain the peculiarities of existing languages. It is essentially unscientific to resolve problems by appealing to inaccessible hypothetical influences.

Assessment of the validity of postulating influence (phonetic or otherwise) from a non-Austronesian language must await a far better understanding of the neighbouring non-Austronesian languages of North Halmahera. No reconstruction of the proto-language of these languages has been attempted. The status of each proto-sound, for example *λ, is by no means clear.

Pending such research, there is another source of contact which should be explored. Setting aside the unconfirmed possibility of ancient non-Austronesian languages on Seram, it is possible to consider the likelihood of borrowing in a more recent era. From the fourteenth until the seventeenth centuries, Central Maluku, in particular the islands near the Manipa Straits, have been subject to considerable political influence from the Ternate sultanate. Ternate introduced

Islam and set up tributary kingdoms throughout the area, gradually eliminating intertribal warfare and head-hunting raids (Cooley 1967a). This process of pacification and subjugation was interrupted by the incursion of the Europeans and the subsequent years of warfare and trading rivalry.

Prior to those events and Ternate culture had penetrated to all levels of Central Maluku society (Chlenov 1976). Numerous loanwords and clan names date from this period. The Ternate sultanate used mercenary soldiers throughout its history; among these were the fierce Tobelo tribesman. According to Tauern (1928:954) Lisabata and Noniali on Seram's north coast were founded by a Halmahera prince. Certainly in modern times several settlements of Tobelo and Galela speakers appear on Seram and even Kelang.¹⁵⁴ It is uncertain how old these settlements may be.

According to local tradition Boano was converted to Islam at a very early period by Ternate proselytisers. Whether this tradition is true is not known. Historians have been slow to study this question. Nonetheless, Boano's geographic position as an easy landfall when sailing from the north as well as its strategic location in the straits lend some credence to the belief that Ternate civilisation penetrated Boano at an early period.

Given the history of non-Austronesian penetration of Central Maluku under the auspices of the powerful Ternate sultanate, it is possible, though difficult to prove, that a non-Austronesian language in which / λ / was a distinctive sound could have played a role in the innovative shift of * λ , * j and * R to n in Boano.

Still another factor, a linguistic factor, can be explored. Although Dempwolff reconstructed * λ as a "voiced dentalveolar lateral" (Dahl 1973:75), both Dahl (1973) and Tsuchida (1976) noted that in certain Formosan languages there is evidence of two distinct proto-sounds which have merged in initial position in non-Formosan languages as * λ . Dahl (1973:73) cites several examples; from Paiwan we note * λ abaw > ku-lavau *rat* and * λ udaq > ludaq *spittle* but * λ anuy > λ -am-anui *swim* and * λ tuban *hole* > λ uban *grave*. Thus Dahl reconstructs PAN * λ as a sound distinct from PAN * λ .¹⁵⁵ Here for phonetic clarity we adopt * λ to represent this lateral fricative which corresponds to a liquid in non-Formosan languages.

There are very few occurrences of initial * λ . Dahl (1973) cites only eight words; Tsuchida (1976) lists seven of which four were mentioned by Dahl. To these Tsuchida added (*per littera*) two more words. The total of words reconstructed with initial * λ for both Formosan and non-Formosan languages is only thirteen.

Dahl (1973:125-26) claims that non-Formosan languages display λ - as the reflex of * λ in initial position. More precisely he writes that "* λ has merged with * λ -" in Melanesian and western Austronesian languages. This merger constitutes one of the phonetic innovations with which he justifies his proposal that there are two highest order Austronesian subgroups: Formosan and non-Formosan. (See Chapter II, Figure 3.)

If there were evidence that * λ was retained in Central Maluku as a sound distinct from * λ , then perhaps this * λ might have been involved in the shift of * R , * j and * λ to n in Boano. Another descendant of Proto-West Piru Bay, Asilulu, displays the retention of a distinct reflex of * λ . In Asilulu we note the following words:

*laŋit	> lanit	sky	*taŋuy	> nanu	swim
*liŋaw	> lina	calm	*tuka	> nuʔa	wound, sore ¹⁵⁶
*lane(nN)	> lane-t	roller	*tiŋaw	> nina-l	echo ¹⁵⁷

In the words above there is fairly striking evidence that in Asilulu *l* reflects **l* and *n* reflects **ɲ*. In initial position Asilulu has retained a reflex of **ɲ* which is distinct from **l*. There is one apparent exception: **ɲəsun* > *mesun* *mortar*. One would predict 'nesun'. In this case, however, another factor may be at work. Dahl (1973:73) notes vowel irregularities in all Formosan languages (except Kuvalan); they reflect **lusun* not *ləsun*. He adds that this may be because assimilation to the final vowel occurred or because the original form had been **ɲəsun* "with loss of **ə* in Formosan...". He also observes that Tagalog, like the Formosan languages, displays *u* not *ə*.¹⁵⁸ A closer look at Philippine languages is in order.

In numerous languages there are similarities in reflexes of **CuqlaN* *bone*, **aqSəlu* *pestle* and **ɲəsun* *mortar* (McFarland 1977:66, 182-83).

	*ɲəsun	*aqSəlu	*CuqlaN
Itneg	qalsun	qalqu	tulqan
Manabo	qaɲsun	qaɲqu	tuɲqan
Bolinao	qaqsun	qaqlu	(butqul)
Yogad	qettun	qalu	tulaŋ
Itawit ¹⁵⁹	qaltun	qellu	tulaŋ

Itneg and Manabo retain a reflex of internal **q* in **CuqlaN*. This **q* has been lost in Yogad and Itawit. All five languages agree in displaying a reflex of **q* in **aqSəlu*. A comparison with reflexes of **ɲəsun* provides very strong evidence that **ɲəsun* must be reconstructed with an initial **q* as well. Tentatively we propose rewriting the PAN entry for *mortar* as **qaɲəsun* or possibly **qɲəsun*. This initial cluster may have been the phonetic factor which caused the unexpected reflex of **ə* in Formosan languages and Tagalog¹⁶⁰ which Dahl noted. Furthermore this initial **q* may also have been involved in the unexpected occurrence of *m* in Asilulu (that is **qɲ* > *m*).

We noted in Chapter IV, section 3, that in Alune final *-*q* and *-*k* display similar innovation, namely **q*, **k* > *kʷ*/+*ə*#. That **q* and **k* merge in this environment suggests that at that period there was a phonetic similarity between the two consonants. Presumably both were back consonants. The development of a labial proximate [w] between **q* or **k* and **ə* suggests that the gravity of both **k* and **q* was the feature involved in this innovation. In other words, in Alune we have clear evidence of **q* imparting labiality to the following segment; that is in word final position *-*qə* > -*qʷə* > -*kʷə* > -*kwe*.

I propose that in Asilulu a similar sound change took place in the reflex of PAN **qɲəsun*; **q* has imparted labiality to the following segment. For other reasons we have argued for the late retention of **q* in descendants of Proto-Piru Bay, notably Asilulu which, in a few words, displays a reflex of initial **q*. Following from the late retention of **q* in Asilulu as well as the evidence from Alune, I propose that **qɲəsun* > *qnəsun*, since **ɲ* regularly became *n*. The cluster **qn-* yielded *m-* by assimilation to the gravity of **q*. Note that in Asilulu only two nasals, *n* and *m*, occur.

In any case,¹⁶¹ with only one exception (which has been explained above), there is convincing evidence, then, that **ɲ* in initial position was preserved in Asilulu as a sound distinct from **l*. Dahl's argument for subgrouping Austronesian languages based on the supposed merger of **l* and **ɲ* in initial position in non-Formosan languages, therefore, becomes untenable.¹⁶² Asilulu retains a reflex of

*ɬ which is distinct from *l in all positions. Like other non-Formosan languages Asilulu displays merger of *n and *ɬ in medial positions.

PAN	> Asilulu		PAN	> Asilulu
*ma-RaqaNay	> malana	<i>man</i>	*(DZ)aɬi ¹⁶³	> lani <i>song</i>
*CuNuH ₁	> tunu	<i>roast</i>	*(q)aɬinguH	> pakuninu <i>shadow</i>
*D ₃ anaw	> lana	<i>lake</i>	*aɬak	> ana-n <i>child</i>

Note that in Asilulu intervocalic *l is retained as l; for example, *təlu > telu *three*; *qulu > ulu *head*; *balik > hali *obverse side*; *bulan > hulan *moon*. In Asilulu then we have clear evidence that *ɬ became n in all positions; whereas *l was retained as l in all positions. I propose that in Asilulu **l (from *j, *R and *l) merged with **ɖ from (*d/D and *z/Z) to **l while retaining a distinct reflex of PAN *ɬ; whereas in Boano **l (from *j, *R and *l) merged with PAN *ɬ while retaining a distinct reflex of **ɖ (from *d/D and *z/Z).

Based on the evidence from Boano and Asilulu, a number of conclusions can be drawn, some of which necessitate modifications in our earlier analysis of Boano. First, probably as early as Nunusaku *d/D and *z/Z had merged, perhaps as **ɖ. PAN *ɬ was retained probably as a lateral flap *ɬ.¹⁶⁴ In Proto-Piru Bay *R, and perhaps *j, had become *l thereby merging with PAN *l. Sometime after the split of Boano from other Piru Bay languages, *l merged with *ɬ in Boano. This merger did not take place in Asilulu or any other descendant of Proto-Piru Bay. However all of these languages including Boano display two sound changes: **d > l and *ɬ > n.

We have already noted that the shift of **d to l in Boano was a very late change which must have followed the shift of *ɬ to n. Thus we can be certain that the widespread occurrence of l (or r) as the reflex of **ɖ is not a diagnostic innovation. It must have occurred at a late period; and it was probably spread by diffusion. Similarly the fact that Asilulu retained a distinct reflex of *ɬ while Boano merged *ɬ with **l suggests that the widespread shift of *ɬ to n is also a late innovation of no diagnostic importance. Again areal diffusion may have been the reason for this sound change.

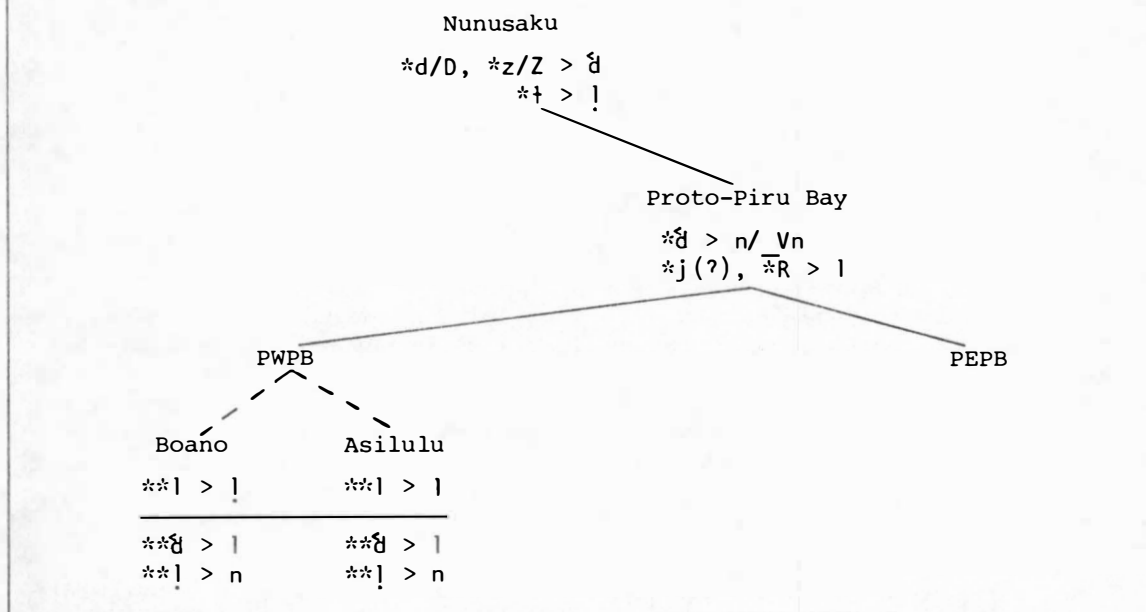
Both sound changes then, appear to have occurred through diffusion from an unspecified source. The shift of **ɖ to *l and the merger of **l with *n are among the numerous sound changes which spread throughout the Central Maluku area at late stages. We recall here the evidence presented indicating the late retention of *q in Alune and Manipa.

The sequence of events suggested here is shown in Figure 28.

The historical development of PAN sounds in the languages of Central Maluku occurred through a series of sound changes which were chronologically ordered with respect to each other. The complicated conditioning phonetic environments proposed earlier in this section are not irrelevant. Within Boano for example the shift of *l to *ɬ may have been preceded by an earlier shift of *l to [λ] before high front vowels. That is the shift of *l to *ɬ was not precipitate but occurred in part through conditioned sound changes.

The startling discovery of the retention of a distinct reflex of PAN *ɬ has led to a revision in our understanding of the history of Proto-Central Maluku and its descendants. Equally important it has pointed to the need for reassessing Dahl's subgrouping arguments for PAN as a whole. Furthermore, the exposition proposed here has underlined the importance of considering language internal factors to account for phonetic 'irregularities'. It is not necessary to appeal

Figure 28: Reflexes of *d/D, *z/Z, *ɬ, *j and *R in
Nunusaku and Proto-Piru Bay



to dubious sociocultural factors, such as 'Papuan substrata' or partial convergence with Halmahera languages in the sixteenth and seventeenth centuries. Historical linguistics provides a firmer footing for linguistic phenomena.

CHAPTER VI

PROTO-EAST PIRU BAY

In the preceding chapter I briefly alluded to the sound changes which distinguished Proto-East Piru Bay from Proto-Piru Bay. They are:

1. $**k > ?$
2. $**\gamma > \chi > k$
3. $**ə > ə$
4. $**e > e$

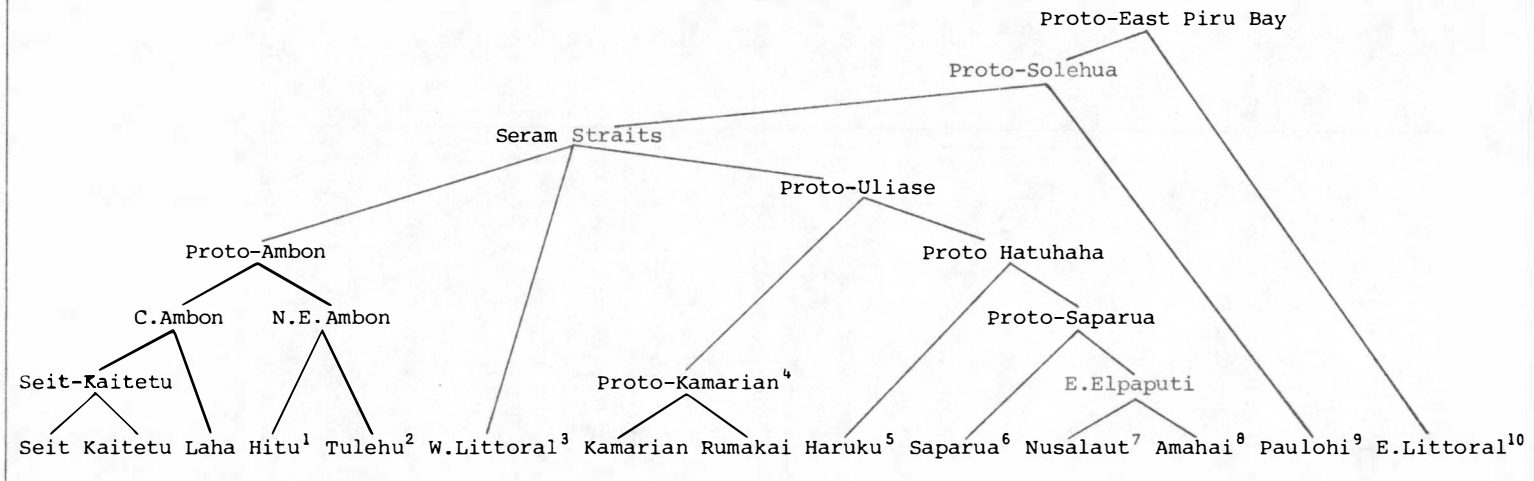
In this chapter these innovations are discussed in detail. The apparent retention of an ancient noun-marker PAN $*si-$ is also considered. Several other retentions and innovations suggest the family tree of East Piru Bay in Map 9.

The classification proposed here is a considerable refinement and revision of classifications suggested by earlier authors. It encompasses more languages, including one never previously identified or described, Laha,¹⁶⁵ and some previously mentioned only in passing, Seit-Kaitetu and Sepa-Teluti. Because of the considerable number of languages involved, frequent reference to maps of the area are necessary. The map provided here presents an overview of the islands and villages involved.

The map does not indicate the languages which are near extinction: Paulohi Kamarian-Rumakai, Nusalaut, Amahai and Eti-Kaibobo. The factors in this decline are numerous and complex. Today the surviving descendants of Proto-East Piru Bay languages are spoken generally only in Muslim villages or only by a handful of the oldest speakers in a few Christian villages. Consequently, in addition to reliance on my fieldnotes, it is necessary to cite forms found in old word-lists, chiefly van Hoëvell (1877) and van Ekris (1864). Citations from materials other than my own will be made explicit.

This chapter contains five sections. In the first, a brief summary of classifications proposed by earlier authors appears. For the sake of clarity and comparison, these earlier classifications have been presented in tree diagram form in Chapter II. The second section discusses the reflexes of PAN $*k$, $*g$, $*\eta k$, $*\eta g$ as well as $*nd$, $*nt$ and $*ns$. In the third section the liquids and palatal consonants are considered. Reflexes of PAN $*p$ are dealt with in the fourth section. The fifth section takes up the difficult question of prothetic segments in some East Piru Bay languages.

Figure 29: Subgrouping of East Piru Bay



¹This includes Hila, Wakal, Hitu, Mamala and Morela.

²Tulehu is reportedly spoken in Liang, Tulehu and Tenga-tenga.

³West Littoral includes the dialects of Eti, Kaibobo, Waesamu and Hatusua.

⁴Other dialects of Kamarian are Tihulale and Seriawan.

⁵In addition to Kailolo, cited here, Haruku is spoken in Kabau, Rohomoni, Pelau, Kariu and Hualiu. Chlenov and Sirk (1973) report a different dialect in Aboru. Elsewhere on Haruku it is apparently extinct.

⁶Most dialects formerly spoken on Saparua Island are now extinct including Ow and Paperu. The language survives in Sirisori Islam, Iha and Kulur on Saparua, Iha-Kulur in west Seram and the villages of Tumalehu, Hualoi and Latu at the mouth of Elpaputi Bay in Seram.

⁷This language is said to survive among the oldest generation of Titawai, Nusalaut.

⁸This language was formerly spoken in Amahai, Soahua and Makariki. It is still spoken by adults in Ruta.

⁹Before the earthquake and tidal wave of 1898 this language was spoken in Paulo and Samsuru. It is still remembered by a few elders in Elpaputi.

¹⁰Refer to section 3 of this chapter for a more detailed enumeration of the dialects of East Littoral (Sepa-Teluti).

1. Classifying the languages of East Piru Bay

It is unnecessary to review in a general way the older literature. That information is found in earlier chapters. In this chapter it is important merely to present outlines of the subgroups proposed by earlier authors and to list as carefully as possible the subgrouping arguments presented by those authors. Although a number of early wordlists exist (including van Ekris, van Doren, Reinwardt and Ludeking), the first attempt to classify these languages appears in the foreword to van Hoëvell (1877).

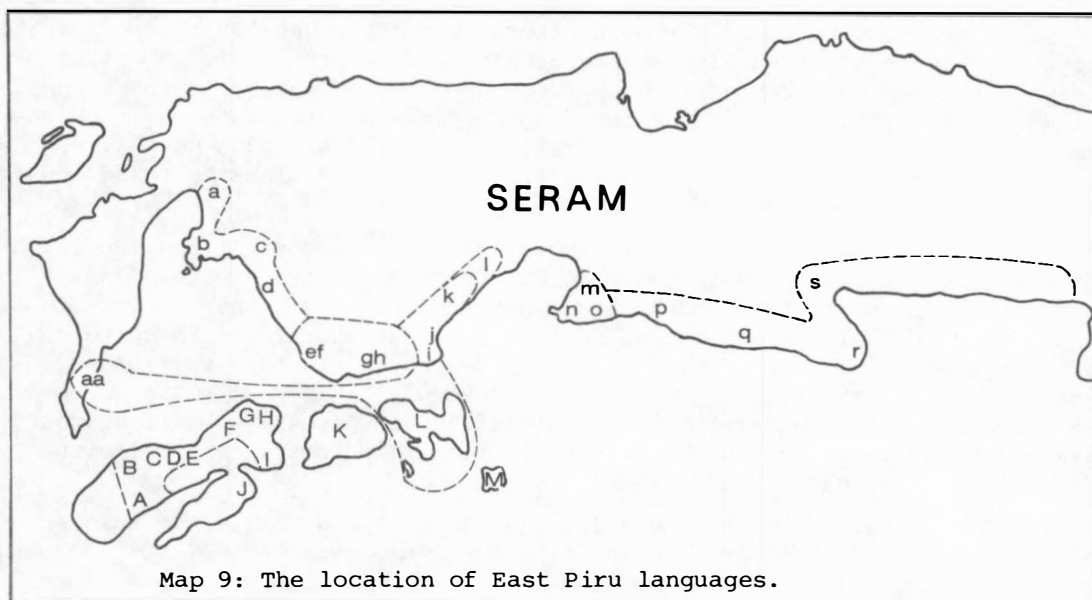
The group he identifies as 'Hatoehahasch' includes most of the languages considered here as descendants of Proto-East Piru Bay. He distinguishes 'Hatoehahasch' from 'Hoamohelsch' which includes nearly all the other known languages of Central Maluku, including some languages considered here to be descendants of Proto-East Piru Bay. The differences he notes (1877:9) are: 1. o and e; 2. r and l; 3. k and r; 4. h and zero; 5. zero and t; and unspecified differences in pronunciation and intonation. Presumably the first sound of each pair above is considered characteristic of 'Hatoehahasch' while the second is distinctively 'Hoamohelsch'.

Van Hoëvell also remarks (1877:12) that Saparua and Nusalaut display a characteristic word final llo and nno or ljo and njo, respectively.¹⁶⁶ Saparua and Nusalaut are distinguished from each other in that Nusalaut has r where Spaarua has l. Nusalaut also 'deletes' *t which is retained in Saparua.¹⁶⁷ He suggests that Haya at the edge of Teluti Bay may have been influenced by Nusalaut.

Stresemann (1927) presents a great deal of information about East Piru Bay languages; he hesitates, however, to draw far-reaching conclusions about subgrouping. In large part he appears to follow van Hoëvell. He adds the information that Kiabobo and Waesamu belong to the group van Hoëvell called Eti-Hatusua and that in this group *w > Ø (except when it occurred between two a's). He includes Amahai in the same group as Saparua and Nusalaut because they share the noun-marker -lo. He notes elsewhere (1927:100) that Saparua and Nusalaut also display *ə > o. In contrast to van Hoëvell who distinguished two major branches of Maluku languages which include most of the languages of western and central Seram and adjacent islands, Stresemann declines to consider the classification of Kamarian, Paulohi, Hila, Haruku, Sepa and Wolu, preferring to leave them as 'isolated' members of 'Sub-Ambon'; no further details are provided about their interrelationships.

In his lexicostatistical classification of Austronesian languages Dyen (1965) indicated a dialect chain that links several of the descendants of Proto-East Piru Bay, namely Hila, Haruku, Saparua and Nusalaut, but in that dialect chain, he also included a descendant of Proto-West Piru Bay, Asilulu. His calculations were based exclusively on van Hoëvell's wordlists.

In a recent work (1978b) Dyen expanded the base of his examination by including the materials found in van Ekris (1864). This has resulted in some revision of his earlier opinion. He claims that Hila is more closely associated with Asilulu and, in fact, forms with it a dialect chain 'disassociated' from a dialect chain (?) he calls 'West Coast Seram'. 'West Coast Seram' includes Kamarian, Tihulale, Rumakai, Karu, Haruku, Hatusua, Kaibobo, Saparua, Nusalaut, Hatawano and, perhaps, Paulohi. No details regarding the vocabulary upon which the calculations are based are provided. The major part of his paper deals with reflexes of PAN *ə; however, this could not be the basis of his classification because Kamarian, considered a 'West Coast Seram' language, and Hila, 'dis-associated' from 'West Coast Seram', display (as Dyen himself notes (1978:393), the same reflex of *ə.



aa Iha-Kulur	A Laha	aa-L-i-j-k Saparua
a Eti	B Seit	a-b-c-d W. Littoral
b Kaibobo	C Kaitetu	e-f-g-h Proto-Kamarian
c Waesamu	D Wakal	l Paulohi
d Hatusua	E Hitu	m-n-o Amahai
e Seriawan	F Mamala	p-q-r-s E. Littoral
f Kamarian	G Morela	A-B-C-D-E-
g Tihulale	H Liang	F-G-H-I-J Proto-Ambon
h Rumakai	I Tulehu	
i Latu	J Tenga-tenga	
j Tumalehu	K Haruku	
k Hualoi	L Saparua	
l Paulohi-Samsuru	M Nusalaut	
m Makariki		
n Amahai		
o Ruta		
p Sepa		
q Tamilou		
r Haya		
s Tehoru		

This map does not bring into consideration more recent settlements of EPB speakers, for example, the major resettlement of Kaibobo (b) speakers across Piru Bay in Ariate or small scattered settlements of Saparua speakers (L) in Elpaputi Bay or the large permanent population of Kailolo (Haruku) (K) speakers in Kairatu, West Seram. It is assumed that the settlements marked on the above map reflect dispersal patterns at least as old as the social upheavals of the seventeenth century.

Chlenov and Sirk (1973) published a study of the reflexes of *b and *p in several languages of Seram and adjacent islands. They identified a 'West Seramese' subgroup. One of the branches of the subgroup is called 'Ambonese'. 'Ambonese' is, in turn, divided into five subgroups. Three of them, Hatuhaha, Saparua and Paulohi, are included in the list of languages identified in this chapter as descendants of Proto-East Piru Bay. Chlenov and Sirk's classification is based on lexicostatistical calculations drawing on published sources and Chlenov's fieldnotes.

In 1976 the complete results of Chlenov's lexicostatistical analysis became available. They are, of course, more comprehensive than the findings published in 1973. They also differ in some details with the earlier subgrouping proposals. Amahai and 'Central Ambon' as well as Hatuhaha, Saparua and Paulohi are considered separate branches of 'Ambonese'. Further, 'Ambonese' has two sister languages: Teluti and Taniwel. The protolanguage of 'Ambonese', Teluti and Taniwel is called 'Ambic'. Sepa is said to be a descendant of 'Central West Seram' which is a sister language of 'Ambic', both of which are descended from 'West Seramese'. In this chapter it will be argued that Sepa and Teluti are members of a dialect chain and descendants of Proto-East Piru Bay. (See Section 3.) Taniwel is not so closely related to Teluti or 'Ambonese'. (See Chapter III.)

There is, then, both agreement and dispute among earlier writers. Although earlier writers did not necessarily deal with the problem of classification in terms of a tree diagram and in some details their positions are not certain,¹⁶⁸ for the sake of clarity regarding these earlier proposals about subgrouping refer to the discussion presented in Chapter II.¹⁶⁹

A brief comparison with the tree diagram of Figure 29 indicates significant differences with the classifications proposed by earlier authors.¹⁷⁰

In the analysis proposed in this chapter and elsewhere, like van Hoëvell's proposal, a bipartite branching of the languages of western Seram is asserted but the details differ considerably. Seit is not a dialect of Asilulu, a descendant of Proto-West Piru Bay; rather, it is a dialect of Kaitetu, a descendant of Proto-East Piru Bay. Iha-Kulur (near Luhu) is a dialect of Saparua. Amahai is more closely related to Nusalaut while Paulohi's relationship with Hatuhaha languages is more distant. The nature of the relationship of Haya to Nusalaut suspected by van Hoëvell is made explicit in Figure 29.

Compared to van Hoëvell, Stresemann proposed a less detailed family tree. He followed van Hoëvell's error regarding Seit. He placed Amahai in a closer relation to Saparua but made no claims about the other languages of 'Sub-Ambon'.

While Dyen's recent article represents a significant revision of his earlier (1965) comments, the suggestion that Hitu is 'disassociated' from other descendants of Proto-East Piru Bay (my term) can not be reconciled with evidence presented in the next section. The position of Paulohi in Figure 29 is clearer than Dyen suggested.

As indicated above Chlenov's (1976) position regarding Sepa and Teluti is very much at odds with evidence presented in the next two sections. The relationships within 'Saparua' and 'Hatuhaha' can be made with much more precision. The placement of Larike with Hitu and Tulehu is untenable in view of the considerable data presented in the preceding chapter.

In the following pages the differences between the positions taken by earlier authors and the position presented here will be justified.

2. Subgrouping of EPB, Part I: PAN *ŋg, *g, *ŋk, *k

Before considering in some detail the innovations which distinguish various branches of East Piru Bay from each other, it is important to make clear the chief grounds for proposing this large branch of Proto-Piru Bay. In the previous chapter these innovations have already been mentioned: PAN *nt, *nd, *ns > k, PAN *k > ? and PAN *g, *ŋk, *ŋg > ?. In this chapter the evidence is reiterated and expanded.

The shift of PAN *nt, *nd, *ns to k occurred through the earlier merger of PAN *nt and *nd to Proto-Central Maluku **nd. In Nunusaku *ns > *z > r and **nd > ð. Then in Proto-Piru Bay **r and **ð merged to **γ. In Proto-East Piru Bay **γ became k, presumably through the earlier devoicing of [γ] to [χ] and then shift of voiceless velar fricative to voiceless velar stop took place.

All the languages considered here as descendants of Proto-East Piru Bay display this distinctive innovation. Note the following:

PAN	*(dD) iŋ (dD) iŋ <i>cold</i>	*qamansi <i>Artocarpus</i>	*ŋu(n)su <i>mouth</i>	*ŋi(n)si <i>tooth</i>	*nta <i>our</i>	*ma-tunu ¹⁷¹ <i>hot</i>
Eti	pa-riki-e	maki	(hihi)	niki	-k	kunu
Seit	pa-riki	umaki	(hihi)	niki	-ka	(pasa)
Laha	pa-riki	(urur)	nuku	niki	(-n)	kunu-r
Hitu	pa-riki	make	(hihi)	niki	-ka	kunu
Kamarian	pa-riki	-	(sou)	niki	ka	kunu
Kailolo	pa-riki	su?u maki	(hihi)	niki-m	-ka	kunu
Latu	pi-riki	umaki-ro	nuku-m	(nio)	-ko	kun-no
Nusalaut	"poeliki"	-	"noekoe"	-	"-ko"	"koenoe"
Ruta ¹⁷²	pu-risi-e	masi-ro	nusu-	(ha?u-)	-ko	kunu
Paulohi	pu-riki-e	umasi ¹⁷³	nuku	(nife)	ka-	kunu
Sepa	pi-riki-e	sui maki	nku-m	(leri-m)	-ko	kunu
Tehoru	pi-liki-e	(hua laya)	(hihi)	(lili-m)	-ko	kunu

In addition to the appearance of k in these and other reflexes of prenasalised PAN dentals, there are innumerable verbs which display k in the conjugational paradigm where *nd is reconstructed (as described in Chapter III). Several of these languages have lost an active s/t conjugation. However, among those languages in which the s/t conjugation is still active, the second and third person singular (as predicted) display k, reflecting prenasalisation of verbal stems beginning with *s or *t. For example, PAN *sakay > Kaitetu sa?a *climb*; so a?u sa?a *I climb* but ipi ka?a *he climbs*; PAN *susu > Kailolo susu *breast, suckle*; so, au susu *I suck* but ikusu *he sucks*. Even in those East Piru Bay languages in which this conjugation has been lost, there is often a trace of the earlier inflectional paradigm. For example, in Laha ka?a (from the second or third person inflection) means *climb* with no inflection but pasa?a (reflecting the oral grade) means *cause to ascend*.¹⁷⁴

The evidence, then, indicates clearly that in Proto-East Piru Bay **γ (from PAN *nt, *nd, *ns) became *k. This reflex was retained in all descendants of Proto-East Piru Bay, both in inherited prenasalised dental clusters and in the relevant forms of the s/t inflectional paradigm. The shift of **γ to k is a distinctive, diagnostic innovation in Proto-East Piru Bay.

There is another distinctive innovation which appears in the data. We know that PAN *g, *ŋg and *ŋk became *ŋg in Proto-Central Maluku.¹⁷⁵ We have earlier noted that both Three Rivers and Proto-West Piru Bay shifted PCM **ŋg to **k. In Nunusaku, then, we must reconstruct **k as the reflex of PCM **ŋg. In

contrast to Proto-West Piru Bay, Proto-East Piru Bay shifted this **k to *ʔ. Note the following examples in Table 3. In the examples presented in Table 3, there is complete agreement among the EPB languages; Nunusaku **k became ʔ. There are, however, other words in which **k is reflected as k in one or more languages.

With few exceptions the unexpected occurrence of k from **k can be attributed to borrowing. In five entries Eti displays k where ʔ is predicted. The language of Eti is spoken in four villages stretched along the east side of Piru Bay. Each of these villages has a complicated history of exchange and association with the Alune villages which are located in the hinterland. While these contacts were sometimes hostile, there was considerable intermarriage and alliance.¹⁷⁶ Eti is only a short distance from Piru, a WPB language. Similarly the other three Eti-speaking villages are also subject to influence from WPB languages of Ambon Island and the Hoamoal peninsula. Both WPB and Alune retained k as a reflex of **k. The unexpected occurrences of k in Eti, then, are considered loanwords.

Occurrences of k instead of ʔ in Seit are most likely due to borrowing as well. Seit is the westernmost village in which a EPB language is spoken. Not only is it within walking distance of Henalima where a WPB language is spoken but it has a long history of interaction with the WPB village to the west. That association was so close that van Hoëvell declared Seit an Asilulu-speaking village. This is incorrect but it indicates the close social and political connections between Seit and villages where **k was retained as k.

The appearance of k from **k in Ruta kari *spatula* should be compared with the entry from Kailolo saʔari. We know that *s before a, e and o became k (Stresemann 1927:37). The k of Ruta kari is all that remains of the instrumental (?) affix **sa- that appears in Kailolo; it is not a reflex of **k.

The single exceptions in Kamarian (keke), Paulohi (kakole) and Sepa (kakalao) are unexplained. The Sepa entry may prove to be a false cognate because, in addition to the consonantal discrepancy, the unexpected appearance of a in the third syllable is also unexplained. Latu kikiʔito is probably not a reflex of *ngengil.

There remain the numerous irregular reflexes of *kasuari. It is probably no coincidence that all these languages except Eti are spoken on Ambon or Haruku where the cassowary is not found. This leads one to believe that the word is a loanword from local Malay kasowari. In Eti's case it may have been borrowed from Alune or Piru as well. This interpretation gains some support when we note the reflexes of PAN *la(ŋ)ka *cockatoo*.

Latu displays laʔo and Sepa and Tehora laʔa. These are the predicted reflexes. The three languages spoken on Ambon (Seit, Laha and Hitu) display the Malay loanword kakatua. Eti and Paulohi display lakatua and Kamarian simply laka. All three of these villages no longer contain more than a dozen elders who still speak their languages. Apparently in these villages there has been a fusion of the Malay loanword with reintroduction of k. Stresemann (1918) recorded kakatua in Paulohi. This perhaps indicates that in Paulohi lakatua is based on the Malay word. It should be observed that the white cockatoo has been an article of trade for some time.¹⁷⁷

The unexpected appearance of k in these two bird names is probably due to borrowing.¹⁷⁸ The occurrence of prothetic segments in certain EPB languages for reflexes of *ngambat is considered elsewhere in this chapter.

Table 3: Reflexes of PAN *g and *ŋk and PCM ** g in EPB languages

PAN	**gayam	*(ŋ)kubay ¹⁷⁹	*nangka	*(ŋ)kuS(ŋ)kuS	*(ŋ)karuŋ ¹⁸⁰
Nunusaku	**kayan <i>Inocarpus</i>	**kuba <i>inner-leaf</i>	**naka <i>Artocarpus</i>	**kuku <i>claw</i>	**karun <i>clothes</i>
Eti	?aene	?uha	na?ane	-	?arune
Seit	?a:n	?uha	na?a	-	?alun
Laha	?aen	-	ana?an	-	-
Hitu	?ain	?uha	ana?an	-	?alun
Kamarian	-	-	ana?an	-	?arun
Kailolo	?aen	?uha	ana?a	-	-
Latu	?a?an-no	-	ai na?a-o	?u?unno	?arunno
Nusalaut	-	-	-	-	-
Ruta	?e?a:no	-	amna?alo	?u?uno	aru:no
Paulohi	-	-	na?ale	-	arune
Sepa	la?iano	-	ana?alo	?u?un	aruni
Tehoru	-	-	ana?alo	?u?un	-
PCM	**ngungur	**ngarun	**ngumen	**ngalangu	*ngaraur
Nunusaku	**kukur <i>thunder</i>	**karun <i>tail</i>	**kumen <i>earth</i>	**kalaku <i>tray</i>	**karaur <i>frog</i>
Eti	-	?aru-i	-	?ala?u	?uraure
Seit	?u?ul	?aru-n	?umen	-	?urakul
Laha	?u?ur	?aro-i	?ume	-	-
Hitu	?u?ul	?aru-l	?ume	?ala?u	-
Kamarian	-	?aru	?ume	-	-
Kailolo	-	?aru-i	?ume	(?aha?un)	(oa-oal)
Latu	-	?aru-iro	?ume	?alauro	iraul-lo
Nusalaut	"oelo"	"aroenjo"	"oemelo"	-	"ilaelo"
Ruta	?u?ur-olo	n-aruno	?ume-lo	la?i?airo	-
Paulohi	-	aru	-	-	?ilaule
Sepa	?u?ulo	arun	-	?ala?u	-
Teluti	?u?u	-	-	?ala?u	-

The conclusion, then, is that, with the exception of certain loanwords, Nunusaku **k > ? in all EPB languages. In fact, this was a characteristic innovation in Proto-East Piru Bay. The shift of **k to ? vacated the velar stop position. This position was subsequently filled by the reflex of **γ. The innovations of PEPB are necessarily ordered with respect to each other.

1. PPB **k > PEPB ?
2. PPB **γ > PEPB **χ > k

These changes, which are reflected in all EPB languages, provide solid evidence for the existence of a common proto-language, Proto-East Piru Bay. That many languages descended from Proto-West Piru Bay also display **k as ? is irrelevant. The fact that Asilulu consistently retained **k as k means that **k must be reconstructed as **k in Proto-West Piru Bay. Further innovations with respect to **k may have occurred in the descendants of Proto-West Piru Bay but they are later sound changes not to be attributed to the proto-language.

Table 4: More reflexes of PAN *g and *ŋk and PCM **ŋg in EPB languages

PAN	*gəlam	*gəlgəl	*garus	*(ŋ)kə(m)bu	*(ŋ)kasuari
Nunusaku	**kelan <i>Cayeput</i>	**keke <i>notch</i>	**karu <i>scrape</i>	**kopo <i>unripe</i>	**kasuari <i>Cassowary</i>
Eti	"elan"	keke	?aru hui	kope	kasawari
Seit	kelan	?e?e	?a?alu	?opo	kasuari
Laha	-	?e?e	?aro?aro	?opai	kasuari
Hitu	-	?e?e	?a?alu-e	?opo	kasawari
Kamarian	"iren"	keke	-	?opoi	-
Kailolo	"iron"	m-e?e	sa?ari	?opa-ele	kasuari
Latu	-	?e?e	?aru	e-?opo	?asawajjo
Nusalaut	"ilan-no"	-	-	-	-
Ruta	"iran-no"	?e?e	k-ari	?opo-ri	?asawa:ro
Paulohi	"elan"	?e?e	?arue	-	?asawari
Sepa	-	?e?e-n	kakalao	-	w-asuari
Tehoru	-	?e?e	-	-	?asuari
PCM	**ŋgəŋgil	*ŋg-al-awani	*ŋgore	**ŋgambat	**ŋgobo
Nunusaku	**kəkil <i>scabies</i>	**kalawani <i>whale</i>	**kore <i>bent</i>	**kapat <i>sea-eel</i>	**kobo <i>overtum</i>
Eti	-	-	kakole	?apat	ata-koho
Seit	kekil	kalawane	-	w-apat	?oho
Laha	?o?ir	-	-	apata	-
Hitu	-	?aluane	pa?ore	w-apate	-
Kamarian	-	?alawanu	a?ore	-	-
Kailolo	?e?ir	-	?ori	?apate	-
Latu	kiki?ito	?awanno	?ore	?apato	?ohu
Nusalaut	-	-	-	-	-
Ruta	?o?o-salo	?alawa:no	-	apa?olo	?aho-leri
Paulohi	-	-	kakole	-	?ahu-leri
Sepa	-	-	-	y-apato	ho?u
Tehoru	-	?alawano	-	y-apato	?ohu-e

These two interconnected sound changes (**γ > k and **k > ?) are diagnostic innovations which distinguish the descendants of Proto-East Piru Bay from all other languages in Central Maluku. It is important to make this conclusion explicit. Both van Hoëvell and Dyen assigned Hitu ('Hilan') to a group which includes Asilulu. This is untenable. All the Hitu dialects from Hila to Tenga-tenga belong to the East Piru Bay branch of Proto-Piru Bay. Other sound changes which took place at a later date may have obscured this ancient relationship. Certainly Hitu, which was the center of the Moluccan spice trade for some time,¹⁸¹ might be expected to display a number of loanwords. But the fundamental diagnostic innovations which distinguish PEPB from PWPB are reflected without a single exception in Hitu. This fact cannot be set aside or minimised.

Similarly both van Hoëvell and Stresemann assumed that Seit and Asilulu are dialects of the same language. This is an example of hearsay printed once (1877) and then reprinted (1927) without ascertaining the validity of the first claim. Typeset has conferred an enviable status on an unfounded rumour. The first data

ever published regarding Seit and its sister dialect Kaitetu appear here. A glance at these data confirms that Seit-Kaitetu is not an Asilulu dialect; it is a clear descendant of PEPB.

Chlenov's assertion (1976) that Larike is a 'Central Ambon' language, closely related to Hitu and Tulehu, is a serious error in his analysis. This assertion was implied earlier in Chlenov and Sirk (1973). It is probably based on the mistaken assumption that the reflex of *pata *four* in Larike is 'aha'. In their treatment of the reflexes of PAN labials they considered h as a reflex of *p of critical importance. This issue will be taken up in a later section. Here it is merely noted that the reflex of *pata in Larike is in fact atí or atiu. Neither in my fieldnotes nor in Lukeking et al. does aha appear. Its appearance in Wallace, Chlenov's apparent source, must be considered another transcription error on Wallace's part. Note, however, even if aha actually occurred in Larike, the failure of Larike to display **ɣ as k (it displays r) definitively excludes Larike from any 'Central Ambon' subgroup.

On the opposite side of the coin, Chlenov's exclusion of Sepa and Teluti is untenable in view of their reflexes of **ɣ and **k. The lexicostatistical reliance on mere vocabulary has led to unacceptable conclusions. As early as 1877 van Hoëvell noted similarities between a Teluti language and another language, namely Nusalaut, which is a descendant of PEPB. The location of the Sepa and Teluti languages far from the center of the cultural and political interaction of Ambon-Uliase has probably decreased the number of lexical similarities shared with other PEPB languages. The diagnostic innovations remain, however.

We must also notice Chlenov's failure to indicate the common proto-language which Paulohi, Amahai, Saparua, Hatuhaha and Central Ambon must have shared. The classification he proposes implies no closer relationship among those languages than they share with Asilulu and Piru. The sound correspondences set out here clearly indicate a common ancestor. Further details about the inter-relationship of these languages will appear in later sections of this chapter.

In this section the differences between the relationships proposed in Figure 29 and the positions of earlier writers have been partly clarified. In the following sections we can consider sound changes which characterise the various branches of Proto-East Piru Bay.

3. Subgrouping of EPB, Part II: PAN *j, *R, *l, *d/D and *z/Z

Stresemann assumed that *z/Z, *d/D, *r/R, *j and *l merged in all 'Sub-Ambon' languages. This has been shown to be an unfounded assumption. Boano, a descendant of PWPB, provides striking evidence of distinctive treatments of these sounds, although the traces have been obscured by massive borrowing. Given the reflexes noted in Boano, it was necessary to reconstruct **ɖ, **l and possibly **j in Proto-West Piru Bay. The mergers displayed in other descendants of PWPB must have occurred only at a very late date in the history of these languages. Did PEPB innovate by merging these sounds or were distinct reflexes retained until recently?

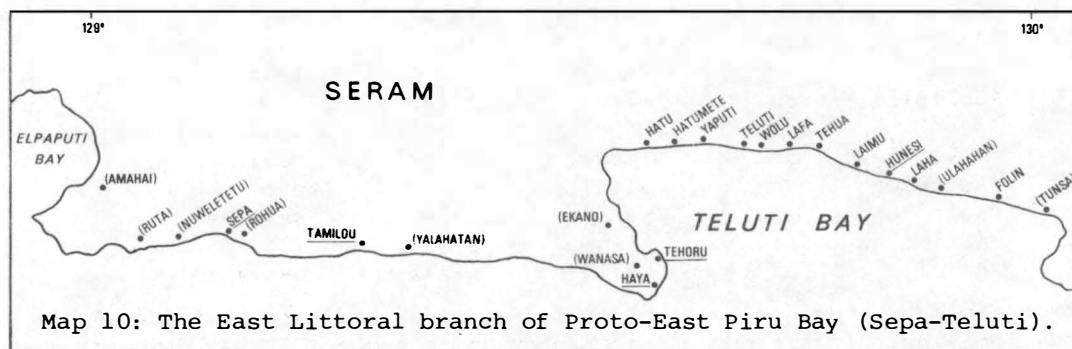
Because of the considerable cultural and political interchange among the villages of the Seram Straits, it is exceedingly difficult to reach conclusions regarding the relevant reflexes in most descendants of PEPB. Van Hoëvell (1877:9) implied that 'Hatoehahasch' languages display r where 'Hoamohelsch' languages

display *l*. This is a simplification. In fact EPB languages display either *l* or *r*; some languages display apparently erratic reflexes.

Stresemann (1927:28) says of Saparua, Hila and Hitulama: "Es scheint eine Tendenz der Lautverschiebung von *l* zu *r* vorzuliegen". Indeed, there is considerable dialectal variation. In the Saparua language, the Latu dialect displays *r* where Kulur (with some exceptions) displays *l*. In the Hitu language, the Hila dialect displays *l* while Tulehu displays *r*. The indication is that there were probably distinct reflexes in specific dialects or languages. The erratic reflexes in some dialects and languages are probably due to interdialectal and interlinguistic borrowing.

Given the unclear situation among the EPB languages in the Seram Straits, it is remarkable to find overall consistency in the treatment of **ɬ*, **r*, **j* and **l* in the easternmost descendants of PEPB. Data from five dialects of Sepa-Teluti strongly indicate that in this branch of PEPB there was never complete merger of all these sounds.

The central portion of the south coast of Seram from about 129° to almost 130°, that is from Sepa to Folin, is a sparsely settled stretch of beach with no broad plains and one good harbour. Until recently the coastal villages there spoke a single language in a ninety kilometer long dialect chain. This language is referred to as Sepa-Teluti. Sepa is spoken in Sepa and Tamilou with only slight dialectal variation. Teluti is spoken on the shores of Teluti Bay beginning at the cape in Haya and extending as far as Folin. Recent economic and social developments in these areas have resulted in population increases and the spread of this language.



Underlined villages were those at which data regarding East Littoral dialects were collected.

Villages in parentheses speak other languages.

Village	Language
Amahai, Ruta	Amahai
Wanasa, Ekano	Manusela
Yalahatan	Atamanu
Rohua	Patakai
Nuweletetu	Wemale
Ulahahan	Seti
Tunsa	Bobot

Stresemann separately mentions Sepa and Wolu, a Teluti dialect. He asserts that Sepa has merged *z, *d, *r, *l and *j to r before u and i but l elsewhere (1927:24). In another section of the same book (1927:29-30) he notes that "now and then" (zuweilen) intervocalic l becomes y which, depending on stress and vowel loss, may become i. He notes a similar change in Wolu. He says that in Wolu 'Ur-Ambon' *l became y before a and j before u. In Wolu, too, loss of the final vowel changes y/j to i.

Despite the fact that Sepa and Teluti (represented by Wolu) display such a distinctive shared innovation, Stresemann does not group these languages together. Nor does he explore in depth the sound change he only grudgingly mentions.

In this section these phenomena are examined more carefully. The treatment of *z, *d, *r, *j and *l in Sepa-Teluti not only provides solid grounds for proposing that Sepa-Teluti is a single language but, perhaps more importantly, it suggests that PEPB did not innovate by merger of these sounds. Just as in descendants of PWPB so too in the descendants of PEPB: merger took place in several languages only at a late date.

The material presented here is drawn from data collected in Sepa, Tamilou and Tehoru. Reference is also made to material recorded in two other Teluti dialects: Haya and Hunesi. Occasional citations gleaned from Stresemann's scattered entries from Wolu and Sepa will be noted.

Dialects of Sepa-Teluti display merger of *d and *z. In Tehoru and Tamilou this reflex is l; Sepa l or r.

PAN		Sepa	Tamilou	Tehoru
*daRəq	<i>blood</i>	laya	laya	laya
*DuSa	<i>two</i>	rua	lua	lua
*Dəpa	<i>fathom</i>	lea	lea	lefa
*SaDiRi	<i>post</i>	hiri	hili	hili
*dəŋəR	<i>hear</i>	hai-nono	nono-loe	(putulue)
*muDəSi	<i>back</i>	(peum)	(peum)	muli
*kə(dD)əŋ	<i>stand</i>	olo	olo	olo
*sa(n)Dər	<i>lean</i>	sasale	sale-ʔe	sale-ʔe
*(Sa)RəZan	<i>stairs</i>	ilan-o	elan-o	ilan-o
*qa(zZ)ay	<i>jaw</i>	w-ala-n	w-ala-n	w-ala-n

Two exceptions are obvious. One of them, -nono- as the reflex of *dəŋəR, is already familiar. In the preceding chapter and elsewhere it was demonstrated that this assimilative change (*d > n/_Vn) took place in Proto-Piru Bay. So this apparent exception in Sepa-Teluti is an early innovation shared by all Piru Bay languages. The second exception, *SaDiRi > hili/hiri, is an innovation unique to Sepa-Teluti. It may be a case of dissimilation and, if so, it is important in determining the sequence of sound changes.¹⁸²

The reflexes of *j are very interesting. Treatment of final *j parallels treatment in other PCM languages.

PAN		Sepa	Tamilou	Tehoru
*waRəj	<i>rope</i>	warit-o	walit-o	walit-o
*quləj	<i>worm, grub</i>	ule	ule	ule
*pusəj	<i>navel</i>	huse-n	huse-n	puse-n

There is an apparent split: *j > t, Ø/_#.

Intervocalic *j displays two reflexes: y and l/r.

*maja	<i>dry</i>	(ntun)	mamaya	mamaya
*ɲajan	<i>name</i>	nia-m	niya-m	niya-m
*pajəy	<i>rice</i>	hala	hala	fala
*suja	<i>stake-trap</i>	sula	sula	sula
*pija	<i>how many</i>	hila	a-ila-me	fila
*Suaji	<i>younger sibling</i>	wari	wali-n	wali-n
*qapəju	<i>gall</i>	huru-n	holu-n	foi-n

In the sequence *aja, *j became y; elsewhere it became l. The Tehoru entry for 'gall' requires some comment. At first glance, PAN *j became y in this entry as well. In fact, the change from *j to y in this word was a late change; it took place after *j became l. This change took place in the Tehoru dialect of Teluti but not in all Teluti dialects. In Tehoru, *qatəluR > *tei-n egg* but in Haya the reflex is *terun*. This suggests that in Tehoru **l from whatever source became y in the sequence *əlu. A later stress rule deleted *u. The development proposed for *qapəju and *qatəluR was as follows:

*qapəju > *pəlu > *fəyu > *foi-n gall*
 *qatəluR > *təlu > *təyu > *tei-n egg*

So, while it is true that *j in *qapəju became y, it is clear that this change occurred only after *j > l. This was an innovation which occurred only in certain Teluti dialects, including Tehoru. Such a development did not take place in Haya, for example. Thus, it is a sound change which took place after the split of Sepa and Teluti. Furthermore the conditions under which this change took place were different from the conditions under which *j became y in *maja and *najan. In the dialectal innovation the environment was *_u but in the Sepa-Teluti innovation the environment was *_a_a.

The treatment of *R in Sepa-Teluti was similar to the treatment of *j.

PAN		Sepa	Tamilou	Tehoru
*Rumaq	<i>house</i>	ruma	yuma	uma
*Rusuk	<i>rib</i>	rusun	lusun	lusun
*rəmbia	<i>sago</i>	ripiā	lupia	lupia
*təluR	<i>egg</i>	torun	telun	tein
*lasəR	<i>testicle</i>	lasen	-	-
*niuR	<i>coconut</i>	nuwelo	nuwelo	nuwero
*timuR	<i>east wind</i>	timio	tamero	timur
*waSəR	<i>water</i>	waelo	waelo	waelo
*busuR	<i>bow</i>	husio	husio	husio
*kapuR	<i>lime</i>	(losa)	haulō	yafio
*kumbar	<i>palm stem</i>	upao	upayo	upayo
*layaR	<i>sail</i>	lialo	lealo	layaro
*uRat	<i>vein</i>	ulato	uyato	uyato
*timəRaQ	<i>tin</i>	"tumia'o"	tumiyao	-
*buRa	<i>spray</i>	-hula	-hula	-hula
*taRuq	<i>put</i>	taru	kalu	kalu
*baqəRu	<i>new</i>	horuo	hoyuo	hoi'ʔo
*tuRun	<i>descend</i>	turu	kuyu	kui
*baRa	<i>shoulder</i>	haya	haya	haya
*naRa	<i>a tree</i> ¹⁸³	naya	-	naya
*daRəq	<i>blood</i>	laya	laya	laya

Initial *r became l in Sepa-Teluti (later r in Sepa). The exceptions are the reflexes of *Rumaq *house*; both Tehoru and Tamilou display unexplained reflexes. Final *R is never found in absolute final position. In two entries it is

followed by the third person singular possessive pronoun, *-ni (>n). In such cases *r is lost: *-R+*ni > -ni > n; for example, lasəR > lasen *testicle* and *qatəluR > tein *egg*. In all other cases *-r is followed by the PCM noun marker **-ə, here reflected as -o.

We assume that the Tehoru and Tamilou entries for *timuR *east wind* are loanwords; the absence of the noun-marker in Tehoru and the completely irregular vowels of Tamilou strongly indicate borrowing, perhaps from Malay timur. The status of Tehoru layaro *sail* is also questionable; it is suspiciously similar to Malay layar.

Setting aside these apparent borrowings, there seem to be certain regularities in the reflexes of PAN words which occur in the above wordlist. First we note that *R > y/a_a; for example, *baRa > haya *shoulder* and *naRa > naya *Pterocarpus tree*. There is also considerable agreement in shifting *R to y between u's as in *busuR > husio *bow* (with subsequent loss of a vowel because of stress as Stresemann noted) and *tuRuN > kuyu/kui *descend* (but Sepa turu). If we assume that *R became y some time after the suffixation of *-ə (o) 'noun-marker', we note other intervocalic environments in which *R became y: a_o as in *kumbaR+ə > upayo *sago stem* and u_o as in *kapuR+ə > yafio *lime*.

The generalisation seems to be that *R > y/[+bk]_[+bk]. This is confirmed by the failure of *R to become y in words in which a front vowel is reconstructed. Note that PCM **niwer (from PAN *niuR (see Dyen 1978b)) became nuwero/nuwelo *coconut* and PCM *waer (from PAN *waSəR) became waelo *water*. We conclude that *R > l/[-bk]_[+bk].

Furthermore, reflexes of intervocalic *l were treated in the same manner.

PAN		Sepa	Tamilou	Tehoru
*qulu	<i>head</i>	uru-m	uyu	uju-n
*bulu	<i>feather</i>	huru-m	huyu-n	hujum
*kulat	<i>fungus</i>	ulato	uyato	ujato
*bulan	<i>month</i>	hiano	hiano	hiano
*labaw	<i>rat</i>	mlaha	maya	mayaha
*təlu	<i>three</i>	toru	tou	toi
*tuli	<i>earwax</i>	tuio	tuio	tilu
*baliw	<i>opposite side</i>	am-hale	hale	hale
*qaSəlu	<i>mortar</i>	maru	-	-
*piliq	<i>choose</i>	paka-iri	pili	paka-ili
*salaq	<i>wrong</i>	sala	sala	sala
*ma-təlu	<i>thick</i>	hu-toru?o	hu-tolu	ho-tolu
*ma-kələm	<i>darkness</i>	ka-molono	ka-molono	ka-molono
*kalaw	<i>hornbill</i>	manjala	manyala	manjala

> y/[+bk]_[+bk]

Again with some exceptions we note that *l > l/[-bk]_[+bk]

This is especially true of Tehoru and Tamilou but Sepa displays only one word in which the proposed sound change took place.¹⁸⁴ While sala *incorrect* is probably a borrowing from Malay salah, there remain other exceptions. It is possible that *l failed to become y when y occurred in the same word as in man-yala *hornbill*. The remaining exceptions in Tamilou and Tehoru are unexplained.

If we return to the data regarding reflexes of *j, it seems that here too the sound change can be stated in terms of back vowels. We must then consider sula and hurun/holun exceptions.

If we are correct to set aside for the time being the exceptions, these observations lead to three important conclusions. First, *l, *j and *R merged to **l. Second, by dissimilation **l > y between non-front vowels; that is there was a conditioned split in **l in Sepa-Teluti. Third, **ɖ (from *d/D and *z/Z) did not merge with **l. In no case is **ɖ reflected as y even between back vowels, e.g. *qa(zZ)ay > walan *jaw* and *kə(dD)əŋ > olo *stand*.

The problem is the large number of exceptions to these observations, especially in Sepa. It may be premature to attempt to draw out convincing generalisations. Certainly a glance at Map 10 indicates the incredible number of languages spoken on the coast of south central Seram. From 129° to 130° eight distinct languages are spoken: Sepa-Teluti, Amahai, Manusela, Atamanu, Pataakai, Wemale, Seti and Bobot. Of course, most of these villages have been settled only recently by migration from mountain strongholds. But we have no way of knowing that similar linguistic diversity did not exist in earlier periods.

Today there are villages along Teluti Bay, Hunesi, for example, where the oldest generation speaks Manusela (a member of a separate branch of Nunusaku) but the young people speak Teluti. It is not unlikely that there has been a long history of shifting linguistic allegiances in this area. Adoption of a new language has been part of acculturation.

Thus, it is possible that Sepa-Teluti, strung out along the sparsely settled coast, was particularly vulnerable to borrowing and contact situations with languages of the interior. Because of our limited knowledge regarding the languages of this part of Seram, the details of such contact situations are far from clear. Although it seems likely that borrowing may have been a dominant factor here, we can not settle the precise mechanisms of borrowing, the directions or the sources.

At this point no clear statement is possible. However, it should be reiterated that notwithstanding the elementary stage of our study of these sound changes two things are clear. First, the conditions for the split which Stresemann discussed (1927:24, 29-30) are irrelevant. He assumed that in Wolu **l underwent certain changes depending on whether it was followed by a or u. While there may be a split of **y in Wolu, the initial conditioning factor is the presence of non-front vowels on either side of **l. It is important to note that this sound change also took place in Sepa and Tamilou. There are some differences in detail presumably resulting from later changes and in some cases borrowing; nonetheless all these languages display the same innovative treatment of treatment of reflexes of *l, *j and *r.

Second and, more importantly, these sounds did not merge with the reflex of *dD and *zZ. Sepa-Teluti has retained a distinction which has been lost in other descendants of PEPB. Apparently as early as Nunusaku, *dD and *zZ became **ɖ. Later *r, *l and *j became **l. In Sepa-Teluti this **l became y under certain circumstances. Only at a late stage did **ɖ become l.

Nunusaku	Proto-Piru Bay	PEPB	Sepa-Teluti
*d > **ɖ *z > **ɖ	**ɖ > **ɖ	**ɖ > **ɖ	2. **d > l
*r > **r *l > **l *j > **j	**r > **r **l > **l **j > **j	**r > **l **l > **l **j > **l	1. **l > l, y

Among the descendants of Proto-West Piru Bay it was Boano, spoken on the northwestern fringe of the geographic area of WPB languages, which preserved distinct reflexes of **ʔ* (from PAN **zZ* and **dD*) and possibly **j* and **R*. Among the East Piru Bay languages, only Sepa-Teluti, spoken in remote villages far to the east of its sister languages, has retained a distinctive treatment of **ʔ*. These two 'fringe' languages have retained distinctions lost elsewhere in the central geographical region of Piru Bay languages.

4. Subgrouping of EPB, Part III: PAN **p*

While the innovations which are shared by all East Piru Bay languages are clear and conclusive, the innovations which distinguish one EPB language from another are not always so transparent. In the preceding section, only detailed analysis of a considerable amount of data clarified important facts about the treatment of **dD* and **zZ* in PEPB and its descendants. Another point of differentiation is the treatment of PAN **p*.

In final position the development of **p* is not clear. There are few reflexes of final **p* and even these few are seldom found in EPB languages. Examples of final **p* are:

PAN		Kaibobo	Kailolo	Seit	Hitu	Latu	Kamarian
<i>*qunap</i>	<i>scale</i>	nonati	saʔunat	nunan	nunati	saʔunati	'sauna'
<i>*qatəp</i>	<i>thatch</i>	(ahaʔ)	ateʔe	(ahaʔ)	ateʔ	ato:	ateʔ

In reflexes of **qatəp*, **p* > ʔ; thus they display merger with **k* in final position. But **p* in **qunap* is either replaced by an obligatory third singular marker **-ni* or it is superseded by the suffix **-t(ə)*. Given only these two entries we conclude that **p* > ʔ, Ø/_#. ¹⁸⁵

In the previous chapter, it was argued that a reflex of **p* in intervocalic position must have been retained in Proto-West Piru Bay. Although no contemporary descendant of PWPB displays a reflex of this **p*, the fact that the vowel change rules in Boano, Manipa and Wakasihi did not apply to reflexes of words containing intervocalic **p* constitutes strong evidence that **p* was retained until a very late stage in the history of WPB languages. These vowel change rules distinguish certain languages from other descendants of PWPB: consequently they must be considered rather recent sound changes. For example, in Wakasihi **Xapuy* became au^{wo} *fire* but **(dD)aSun* became lou-ri *leaf*. The vowel change which affected the sequence **aqu* did not affect **apu(y)* because **q* was lost before intervocalic **p* (or a distinct reflex of it) was deleted. The details of this argument appear elsewhere. The point at issue here is that **p* (or a distinct reflex of it) was lost only after the distinctive vowel change rule took place.

The subsequent loss of **p* in Wakasihi and other WPB languages probably was caused by diffusion. We conclude that Proto-Piru Bay retained a distinct reflex of **p* in order to account for its late retention in several of its descendants. In the easternmost languages of EPB we find an indication of what that reflex of **p* may have been.

Sepa-Teluti, as demonstrated in the preceding section, is a descendant of PEPB. Nonetheless there is a striking difference between its two chief dialects. In Sepa (spoken in Sepa and Tamilou) **p* became h or Ø whereas in Teluti (spoken from Haya to Folin) **p* became f.

PAN		Sepa	Tehoru	PAN		Sepa	Tehoru
*paRi	<i>stingray</i>	hari	fali	*Xapuy	<i>fire</i>	hau	yafu
*panay	<i>bait</i>	anai	fanai	*kapuR	<i>lime</i>	(losa)	yafio
*pajəy	<i>rice</i>	hala	fala	*ru(m)pun	<i>gather</i>	loue	lofue
*pitu	<i>seven</i>	hitu	fitu	*Dəpa	<i>fathom</i>	lea	lefue
*pənu	<i>tortoise</i>	henu	fenu	*ma+nipi	<i>dream</i>	mnihi	mnifi
*qapəju	<i>gall</i>	hurun	foin	*nəpu	<i>a fish</i>	nou	nofu
*pusəj	<i>navel</i>	husen	pusen				
*puqun	<i>trunk</i>	hu ^w en	fuen	PCM			
*pukət	<i>net</i>	ueto	fueto	**upan	<i>face</i>	uan	ufan
*pusun	<i>heart</i>	husu	pusu	**ma+pəqit	<i>salty</i> ¹⁸⁶	mhei	mafei
*puki	<i>vagina</i>	hiin	fii	**qipar	<i>Canarium</i>	iao	ifayo
*pija	<i>how much</i>	hila	fila	**topi	<i>launder</i>	toi	kofi
				**malipe	<i>smile</i>	marihe	malife

In Sepa initial *p became h with only two exceptions: *panay > anai *bait* and *pukət > ueto *net*. These words are probably loanwords from languages spoken further west. In Teluti two entries display p, rather than the expected f. Presumably, these two words display the reflex of a prenasalised form: that is *Np > p but *p > f. Note that both these words are the names of body parts. With these two exceptions, apparently due to prenasalisation, *p became f in word initial position in Teluti dialects.

Intervocalic *p in Teluti became f as well; there were no exceptions. In a number of cases intervocalic *p was lost in Sepa; in other words it was retained as h. The peculiar metathesis apparent in the reflex of *Xapuy is a characteristic change in the languages descended from Proto-Uliase. Note, too, that in Tamilou, a dialect closely related to Sepa, we find *kapuR > haulo *lime*. This, too, is a typical Proto-Uliase sound change. Both these cases of metathesis are considered loan words from languages descended from Proto-Uliase. In Tamilou we note further evidence of sporadic loss of intervocalic h (from *p): *ma-nipi > mini *dream* and *malipe > malie *laugh*. Because Tamilou and Sepa are closely related we conclude that the loss of h in the two words cited above occurred after the split of Sepa and Tamilou into two dialects. This indicates a very late sound change. The recent date and unevenness of this sound change suggests that the loss of h (from *p) must be attributed to borrowing from languages where *p became zero in intervocalic position. Any descendant of Proto-Uliase could have been the source of this borrowing.

Considering the initial and intervocalic reflexes of *p, it is quite likely that in Proto-Sepa-Teluti the reflex of *p was *ɸ. This would explain the contemporary reflexes. In Teluti *ɸ became f, preserving the labial and fricative qualities of *ɸ. In Sepa *ɸ became h, suggesting the spirancy of *ɸ. (Subsequent borrowing in Sepa has resulted in some words displaying loss of intervocalic h.)

If we assume that *p became *ɸ as early as Nunusaku, the later changes which affected this rather unstable spirant are most easily explained. Certainly as early as Proto-Piru Bay *p had become *ɸ since the reflexes of *p in Sepa-Teluti suggest this. In Paulohi, another descendant of Proto-East Piru Bay, the reflex of *p is f, again pointing to *ɸ as a likely intermediate sound.¹⁸⁷

This *ɸ was lost in several EPB languages. In West Littoral Seram there is no trace of *ɸ. In Central Ambon languages *ɸ was probably completely lost. Nonetheless some problematic forms occur in Seit-Kaitetu. In Proto-Hitu *ɸ may have been retained as h in one entry, the numeral *pata. The evidence is considered below.

PAN		Kaibobo	Seit	Laha	Hitu	Tulehu
*paRi	<i>stingray</i>	ari	ali	(pari)	ali	ari
*pusəj	<i>navel</i>	use	use	use	use	usa-isi
*pija	<i>how many</i>	ira	ila	ila	ila	ila
*qapəju	<i>gall</i>	oru	werun	(ata)	olu-li	-
*pənu	<i>tortoise</i>	enu	wenu	(teteruga)	enu-e	-
*Xapuy	<i>fire</i>	au	au	au	au	aue
*kapuR	<i>lime</i>	?aur	?aul	?aul	?aur	?aur
*pata	<i>four</i>	ata	ata	ata	hata	hane
*pitu	<i>seven</i>	itu	itu	itu	itu	itu

In Seit-Kaitetu the reflexes of *qapəju and *pənu indicate possible retention of *ɸ as w. If one considers that both PAN cognates are words in which *p is followed by a central vowel and a palatal (*j or *ɲ), one might claim that in such a position *p became w. Later sound changes depalatalised *j and *ɲ.

This presumes that *ɸ was despirantised by its proximity to a palatal. Is there any other motivation possible for the appearance of w- as an apparent reflex of *p in a language where w is otherwise a reflex of *w? A look at other languages may shed light on this question.

PAN		Asilulu	Manipa	Wakasihu	Latu	Kailolo
*qapəju	<i>gall</i>	welu	wailu	ilona	worujjo	worui
*pənu	<i>tortoise</i>	wenu	wenu	wino	henno	henu

The fact that Wakasihu, Latu and Kailolo do not treat the two words in the same way weakens the argument that w- is a reflex of *p conditioned by palatal. More damaging is the reflex of 'gall' in Manipa. Here wa- appears as a prefixed syllable. Chlenov and Sirk (1973:73) have remarked on the appearance of this prefix in some Central Maluku languages. Furthermore the fact that ordinarily the vowel sequence *a*ə became e in Seit allows for the possibility that w- is not a reflex of *p but a reflex of a prefix **wa-; thus, *wa+pəju > wəlu > welu.

For the time being, we will assume that *wa is a preposed noun-marker or counter as implied by Chlenov and Sirk. This matter will be reconsidered in the next section. At this point, it is clear that there were different treatments of *pənu and *qapəju. Consequently, although w- in *qapəju is apparently not a reflex of *p, this does not bear on the reflex of *pənu. Considering reflexes in certain WPB languages it seems that *ɸ became w; that is the spirant (or rather fricative) became a proximate; thereby assimilating to the following nasal continuant (which was itself followed by a bilabial vowel u). This shift of *ɸ to w preceded the loss of ɸ elsewhere.

This argument is stronger than the rather artificial position that *ɸ became w near a palatal. Here we argue that *ɸ became w under more acceptable conditions; namely a labial fricative became a labial continuant when followed by a continuant and a labial vowel.

The question is whether this apparent reflex of *ɸ as w is an innovation in Seit-Kaitetu. The fact that among Proto-Ambon languages Seit is alone in displaying w- from *ɸ may indicate borrowing. Seit's sister dialect, Kaitetu, has lost this word (and replaced it with a Malay loanword: tuturuga). It is not unlikely that Seit has borrowed this word from a WPB language, many of which display this apparent reflex of *p. Seit, as has been noted, is a mere morning's walk from Henalima which speaks a dialect of Asilulu. Tentatively wenu in Seit is considered a loanword.

Data from five dialects of Proto-Hitu (namely Hila, Hitu, Mamala, Liang¹⁸⁸ and Tulehu) agree in retaining a reflex of *p in a single PAN entry: *pata > hata *four*. (In Tulehu *pat > hane.) In another numeral, *pitu, initial *p was lost. Irregularities in the numeral systems of languages are not uncommon. We consider this appearance of *ɸ as h in hata/hane a single word retention of a reflex otherwise lost in the descendants of Proto-Hitu. Of course, borrowing is possible (from Kailolo, for example) but the idiosyncratic appearance of ha-ne in Tulehu suggest an old retention.¹⁸⁹ The only other EPB languages which display a similar reflex are not likely to have been sources for this word. The distant languages of Paulohi, Sepa and Tehoru display hale or fale. Their remote location does not favour the possibility of borrowing into Tulehu.

In summary, then, with the exception of the single retention of a reflex of *p in the numeral series of Hitu dialects, the descendants of Proto-Ambon and the West Littoral Seram languages do not display a reflex of *p(*ɸ) in any position.¹⁹⁰ The two apparent retentions of *ɸ as w- in Seit have been discounted as borrowings or reflexes of **wa-. On the other hand, the easternmost descendants of PEPB, Paulohi and Sepa-Teluti, display retention of *ɸ (from *p) as either f or h in all positions. In the most numerous branch of PEPB, Proto-Uliase, the conditions are more complicated.

In his discussion of languages identified here as descendants of Proto-Uliase, Stresemann (1927:53, 57) cross-references reflexes of PAN *p and *b.¹⁹¹ He does this because Kamarian, Haruku, Saparua, Nusalaut and Amahai display *p > h, Ø and *b > h. This, of course, indicates a partial merger of *p and *b. The details of this partial merger Stresemann does not discuss.

In 1973 Chlenov and Sirk took up precisely this question. They noted (1973: 72) "that the merger of *p and *b in initial position can be considered as a feature characteristic for the Saparua dialect. But it should be admitted that there are only a few examples of *p- > h at our disposal."

The material from Proto-Uliase languages is presented below. All apparent examples of reflexes of initial and intervocalic *p and some examples of reflexes of *b are given.

PAN		Kamarian	Rumakai	Kailolo	Latu	Ruta
*paRi	<i>stingray</i>	'hari'	hari	hari	hajjo	ha:ro
*panay	<i>bait</i>	anai	hanai	anai	hanairo	anairo
*pajəy	<i>rice</i>	hala	hala	hala	halo	hala:lo
*pata	<i>four</i>	ha?a	ha?a	ha?a	ha?a	ha?a
*pitu	<i>seven</i>	itu	hitu	itu	hitu	hitu
*pija	<i>how many</i>	wira	wa?ira	wira	waira	aira
*pənu	<i>tortoise</i>	henu	"henu"	henu	henno	henuro
*qapəju	<i>gall</i>	"horui"	horu	worui	worujjo	ho:ro
*pusej	<i>navel</i>	use	huse	use	oso	oto
*puqun	<i>trunk</i> ¹⁹²	uwere	"hue"	uwe	wonno	uʷo:no
*pukət	<i>net</i>	uet	uete	uete	uoto	uoʷolo
*pusun	<i>heart</i>	-	usu	usu	usuro	wosu:ro
*puki	<i>vagina</i>	ui	ui	iel	yello	(sinamallo)
*Xapuy	<i>fire</i>	hau	hau	hau	hauro	hauro
*kapuR	<i>lime</i>	(aheti)	(aheti)	(ahetie)	haullo	(loka:lo)
*manipis	<i>thin</i>	mani	mani	mani	(mdala)	(emdala)
*Dəpa	<i>fathom</i>	rea	lea	lea	lea	lia
*ru(m) pun	<i>gather</i>	(lutu)	(rutu)	(rutu)	loʷue	rouʷe
*ma+nipi	<i>dream</i>	taʷunu	-	mani	muni	moniʷi
*nəpu	<i>a fish</i>	nou	"nou"	nou	nouro	nouro

PCM		Kamarian	Rumakai	Kailolo	Latu	Ruta
**qipar	<i>Canarium tree</i>	iar	'hial'	ial	yallo	ia:llo
**topi	<i>launder</i>	(toho)	(toho)	(toho'e)	toi	koi
**ma+pəqit	<i>salty</i>	(asere)	(asere)	(asele)	e-moi	emhei
**upan	<i>face</i>	ua	ua	ua	uandao	uandalo

PAN

*batu	<i>stone</i>	hatu	hatu	hatu	hatu	ha'uro
*bukəS	<i>hair</i>	(keur)	hua	(keure)	huo	-huo:
*bulu	<i>feather</i>	hurui	hurui	hurui	hurun	huruno
*tuba	<i>Derris sp.</i>	tuha	(bore)	tuhale	tuho	(munuro)
*babuy	<i>pig</i>	hahu	hahu	hahu	hahuro	hahuro
*buqubuqu	<i>fish trap</i>	huhu	huhu	huhu	huhuro	huhuro

In all relevant positions *b became h without exception in Proto-Uliase. Reflexes of intervocalic *ɸ (from *p) are lost with two possible exceptions. The entries for *kapuR *lime* and *Xapuy *fire* suggest metathesis of intervocalic *ɸ in Proto-Uliase; that is *Xapuy > aɸu > ɸau > hau- *fire*. That both these entries display nearly identical environments (**aɸu(l)) suggests that this was an early conditioned metathesis in Proto-Uliase.¹⁹³

Two other exceptions occur. In Ruta (Amahai) ʔ appears as a possible reflex of *ɸ in one entry: *maʔnipi > moniʔi *dream*. This could be a retention of a reflex of *ɸ between like vowels or simply a hiatus phenomenon. But in either case one must account for the absence of ʔ between like vowels in rouʔe and nouro. In Latu *ru(m)pun apparently became roʔue *gather*; this contrasts with the reflex of *nəpu (nouro *stonefish*). Possibly the ʔ of *-kən 'transitive marker' has been shifted forward. (Compare to the entry in Ruta.)

These two entries must be considered unexplained irregularities. In general, then, *p > **ɸ > Ø/V V in all the descendants of Proto-Uliase. It is the treatment of *ɸ in initial position that requires further analysis.

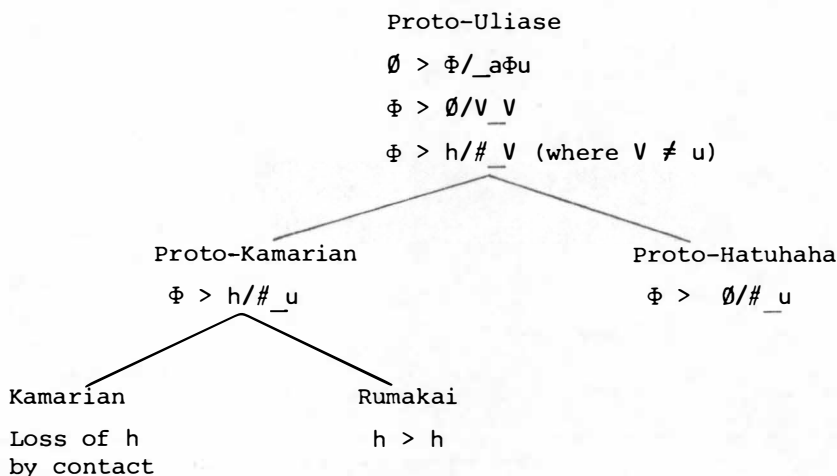
The Hatuhaha languages (Kailolo, Latu and Ruta in the table presented here) uniformly display loss of initial **ɸ before *u. Chlenov and Sirk (1973:74) are inclined to dismiss this obvious conditioning factor. They observe that Saparua hutu *cut* may derive from PAN *putus *snap*. In addition to the semantic difference, the evidence from WPB languages argues against this derivation. Asilulu, for example, also displays hutu *cut*; in Asilulu *p > Ø without exception and *b > h. This suggests a derivation from **butu, not *putus. They further note that in Saparua hute means *rotate* and this they compare to *putər *rotate*. The shift of *ə to e in Saparua is irregular; this may not be a reflex of *putər. No language which I studied displayed this reflex. If this is a reflex of *putər it is a single unexplained exception to the generalisation that *p > **ɸ > Ø/V V in Hatuhaha languages.

In Kamarian, too, **ɸ became zero before u but in at least two cases Rumakai (a dialect of Kamarian) displays h as the reflex of **ɸ before u: *pusəj > huse *navel* and *puqun > hue *base*. The retention of a reflex of **ɸ in Rumakai implies that in Proto-Kamarian initial **ɸ was retained before u. This reflex of **ɸ was later lost in Kamarian itself but it was retained in less prestigious dialects like Rumakai. Kamarian is the village in Seram closest to Ambon island, where **ɸ became zero. The loss of a reflex of **ɸ before u in Kamarian was probably due to borrowing and contact. We conclude that in Proto-Kamarian **ɸ was retained before *u; whereas in Hatuhaha this **ɸ was lost even before *u.

Although Proto-Kamarian and Hatuhaha did not agree in their treatments of reflexes of $**\phi$ before $*u$, the treatment of initial $**\phi$ elsewhere was the same. In Proto-Uliase $**\phi > h/\#_V$ (where $V \neq u$). This sound change is reflected without exception in Ruta and Latu. In Kamarian (but not Rumakai!) and Kailolo h was lost in reflexes of $*panay$ and $*pitu$. Because h is retained in Rumakai we assume that the loss of h in Kamarian and probably Kailolo was due to borrowing from nearby Ambon island. (See Figure 30.)

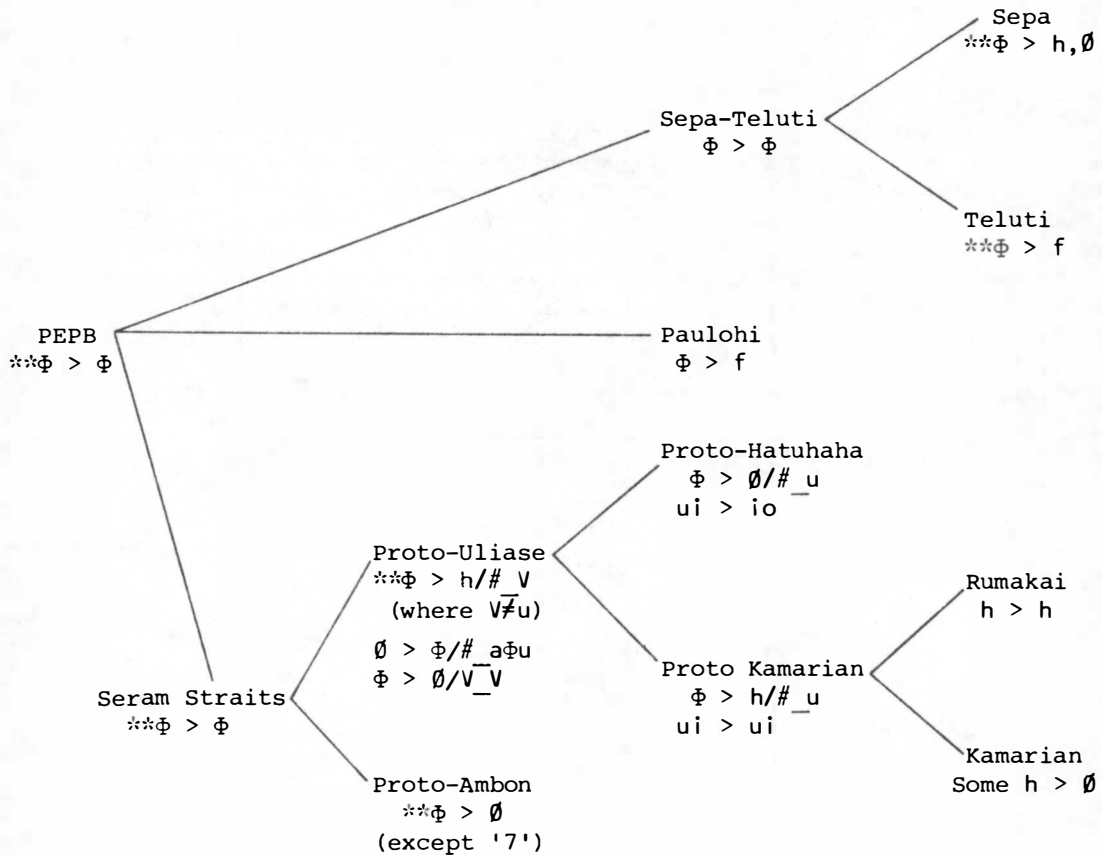
The material presented here indicates a clear basis for subgrouping within Proto-Uliase. If we compare the treatments of $**\phi$ before $*u$ in Proto-Kamarian and Proto-Hatuhaha, we find support for the necessity of reconstructing $**\phi$ as an intermediate stage of PAN $*p$ and we can perceive the phonetic interpretations which underlay the split diagrammed here. In Proto-Kamarian, the spirancy of $**\phi$ was interpreted as $[h]$ while the labiality of $**\phi$ was assigned to the following $*u$; hence $**\phi > h/\#_u$. In Proto-Hatuhaha because $**\phi$ shared a feature with $*u$, $**\phi$ voiced by assimilation and, thereby, became an extension to u ; that is $**\phi$, thus, lost its non-syllabic identity. Only if $*p$ had become $**\phi$ do the underlying interpretations of these treatments seem reasonable.

Figure 30: Classification of Proto-Uliase based on reflexes of $**\phi$



Another minor innovation distinguishes Proto-Hatuhaha from Proto-Kamarian. Note that in the reflex of PAN $*puki$ *vagina* there was metathesis. The contemporary reflexes are *iel* or *yello/yollo*. Apparently $*puki > ui > iu > io-llo$ and later in some dialects *iel(lo)*. This turn of events is confirmed by older wordlists. Van Hoëvell (1877) gives two forms "oeil" and "jollo", that is $[uil]$ and $[yollo]$, both from Saparua. This clearly suggests the metathesis proposed here. Another old wordlist (1894) lists "jollo" in Ouw (now extinct).¹⁹⁴ This suggests the $**uil$ became *yollo* and, then, contemporary *yello*.

In Proto-Uliase it is quite clear that there has been partial merger of $*p$ and $*b$ in initial position. This in itself, at first glance, is of some interest to the highest branches of PAN. Dyen (1971:13 and elsewhere), apparently following Grace (1959) and others, observed that "the languages which merge $*p$ and $*b$ reach no further west than Biak (which did not) in the New Guinea area". This merger of $*p$ and $*b$ is a characteristic innovation of the Oceanic languages.

Figure 31: Tentative classification of EPB based on reflexes of $**\phi$ 

(Whereas Proto-Piru Bay PAN $*b > h$ everywhere)

However, as Chlenov and Sirk (1973:67) noted, the merger of $*p$ and $*b$ in certain Maluku languages is obviously an innovation of very recent date. For one thing it is only a partial merger. For another it occurred only within a restricted subgroup of Proto-East Piru Bay, namely Proto-Uliase. It can not be attributed to any proto-language of this subgroup. In fact, this sound change confirms the position that a reflex of $*p$ (that is $**\phi$) was retained until a very late date in the development of the descendant languages of Nunusaku.

5. Prothesis in EPB languages: Grammatical morphemes in PAN¹⁹⁵

In a section of his book entitled *Phonetic phenomena in word-initial position* Stresemann (1927:114-118) considers unexpected initial segments in non-verbal lexical items. He claims that these sounds occur, especially before initial *a*, as a development of the 'Spiritus lenis'. He also notes that Central Maluku languages are not unique in displaying this phenomenon. He cites similar developments in Gorontalo, Aiduma (New Guinea) and Kei, Kor and Teor in Southeast Maluku.

Dahl (1973) has thoroughly and objectively discussed the meaning of "Spiritus lenis" for Dempwolff and his contemporaries, which included Stresemann.¹⁹⁶ It is unnecessary to reconsider that question here. It is however, noteworthy that a careful reconsideration of Dempwolff's "laryngeals", including "Spiritus lenis", led Dyen (1953) to the discovery of two distinct laryngeals in PAN: *q and *S. A detailed analysis of occurrences of prothetic segments in languages descended from PEPB may clarify their origins not only in Central Maluku but perhaps at higher branches of PAN as well.

Chlenov and Sirk (1973) dismiss those cases where an unexpected initial h appears in certain EPB languages. They say this h "most probably . . . is not a reflex of some primary initial consonant but a prothetic sound which precedes the initial vowel". Further reference is made to Stresemann's "Spiritus lenis" (1927:114-118). There the issue is closed.

It is unsatisfactory to appeal to hypothetical onsets to resolve residual problems. If possible, attempts should be made to discover the historical basis for a certain phenomenon instead of simply referring to a theoretical construct which is, in fact, a mere label. In short, the solution proposed by Chlenov and Sirk, following Stresemann, is not a solution but a name for the problem. Of course, it is unlikely that Stresemann or Chlenov and Sirk had a sufficient amount of information regarding this problem. Generalisation was difficult under those circumstances.

In this section it will become clear that at least some of the cases of prothetic segments in EPB languages can be more satisfactorily explained. There are at least two sources for these unexpected initial sounds. In Kamarian and, possibly, some Haruku dialects, PAN *q was retained in initial position in a number of words. In Saparua dialects and Sepa-Teluti a preposed noun marker was retained under certain circumstances. These two probable sources for unexpected initial segments are discussed below.

First we note that Rumakai displays at least three words in which PAN *q was retained as h. Kamarian displays only two reflexes.¹⁹⁷ Apparently earlier authors recorded other words which reflect *q in Kamarian and in some dialects of Haruku and Saparua. Contemporary dialects of Haruku and Saparua recently surveyed no longer display these forms.

PAN		Kamarian	Rumakai	Haruku	Saparua
*qaSəlu	<i>pestle</i>	haru	haru	"haroe"	"haloe"
*qijun	<i>nose</i>	hiru	hiru	iru	irim
*qi(n)suD	<i>earthquake</i>	"hisu"	hahisure	isur	isuro
*quləj	<i>worm</i>	"hure"	"hure"	(lade)	ure-ureo
*qatəy	<i>liver</i>	(hatu'a)	ata	"hata"	ata
*qutək	<i>brain</i>	(otak)	(otak)	"hute"	(otak)

There are, of course, numerous examples of loss of initial *q in these languages; for example, *qulu > ulu/uru *head*, *quZan > ulan *rain*, and so forth. It was argued in the preceding section that loss of *p in these languages was probably due to borrowing. This intensive contact situation probably accounts for the unexplained loss of *q. In other Piru Bay languages we know that *q, now no longer present, was retained until some recent time. In Manipa, for example, the complete disappearance of *q belies the very recent presence of intervocalic *q in that language. Its uneven retention in Kamarian and its nearly complete loss in Haruku and Saparua suggest that a reflex of *q was retained until recently.

Once we recognise the sporadic retention of *q as h, we can reject Stresemann's proposal (1927:117) that hisu, hute, hure and halu display reflexes of the "Spiritus lenis". Instead we include all these entries as well as the words hata and hiru (which Stresemann (1927:74) included as possible reflexes of 'Ur-Ambon' h) as reflexes of PAN *q.

A second major source of prothetic segments in EPB languages is the partial retention of a very old noun-marker. Chlenov and Sirk (1973:76) cite hahunno *turtledove* which they assume displays prothetic h. In fact, there are a few more words similar to hahunno. These Saparua words compare with similar entries in Sepa-Teluti. For the sake of comparison the relevant entries are also cited from a WPB language, Asilulu, as well.

PAN		Latu	Paulohi	Ruta	Sepa	Tehoru	Asilulu
*kabil	<i>hook</i>	hahillo	ahire	ahirolo	yahilo	yahilo	ahil
*kəbkəb	<i>cover</i> ¹⁹⁸	hohano	hohane	uhano	yohano	yohano	ohan
*kaba(Ct)	<i>thread</i>	haho	haha	ahailo	yaha	yaha	aha

PCM		Latu	Paulohi	Ruta	Sepa	Tehoru	Asilulu
**abun	<i>dove</i>	hahune	hahune	maha:no	-	-	ahun
**abatu	<i>a bamboo</i>	hahatu	-	aha?uro	yahatu	yahatu	-
**kaba	<i>oar</i>	ahē	hahate	aha	payano	hayano	ahat

In general the initial h in Saparua and Paulohi corresponds to y- in Sepa and Tehoru. These apparently correspond to zero in Asilulu and Ruta.¹⁹⁹ (The appearance of m- in the entry for 'dove' as well as the irregular vowel suggest that the Ruta word is not a reflex of PCM **abun.) Latu and Paulohi display a single exception each: Latu *ahē row* and Paulohi *ahire hook*. In Sepa and Teluti a distinctive word specific metathesis took place in the entry for 'oar'; Sepa further displays a prenasalised *b. That is:

PCM **aba > Sepa-Teluti **yaba > baya > Sepa mbaya > paya-no *oar*
 > Teluti baya > haya-no *oar*.

The PCM and PAN words are all of the form (k) [^{+voc}_{-high}]b[+voc]([-voc]). In Proto-Piru Bay *k was lost; so both the PAN and PCM words began with a non-high vowel. The overall similarity in the phonetic arrangement of each word as well as the striking regularity in each language's treatment of this arrangement strongly suggest that some sound was present at an earlier stage. This sound yielded h in Latu and Paulohi, y in Sepa-Teluti and zero in Asilulu and Ruta.

The conditions for this correspondence are quite specific. In other words Sepa-Teluti y- does not correspond to Latu h-.

PAN		Latu	Paulohi	Ruta	Sepa	Tehoru	Asilulu
*aŋin	<i>wind</i>	anino	anine	ani:no	yanino	yanno	anin
*kaSiw	<i>wood</i>	ai	ai	ai	yai	yai	ai
*aku	<i>lsg</i>	au	au	au	yau	yau	a?u
*kami	<i>lpl(ex)</i>	ami	ami	ami	yam	yam	ami

PCM		Latu	Paulohi	Ruta	Sepa	Tehoru	Asilulu
**aqi	<i>leg</i> ²⁰⁰	ai	wai	ai	yai	yaim	ai
**ambat	<i>wound</i>	apatiro	lapate	iapa?iro	yapato	yapan	apat ²⁰²
**ambat	<i>sea-eel</i>	apato	-	apa?olo	yapato	yapato	apat
**aman	<i>village</i>	amanno	amane	ama:no	Yamano	yamano	-
**ale	<i>2sg</i> ²⁰¹	ale	ale	ale	yale	yale	ale
**amet	<i>sago bark</i>	ameto	amete	ame?eolo	yameto	yameto	-

With some exceptions, we note that Latu (Saparua), Paulohi, Ruta and Asilulu zero corresponds to Sepa-Teluti *y-*. Again all words are nouns; all of them have initial *a* (after the loss of **k-* in Proto-Piru Bay). From a comparison of the above table with the one preceding it, we can infer that the conditions for the correspondence of Latu *h-* and Sepa-Teluti *y-* were more specific. In Sepa-Teluti *y-* appears whenever the initial sound of a noun is a non-high vowel, usually *a*. In Latu and Paulohi *h-* appears only when the initial sound of a noun is a non-high vowel followed by *h* (from **b*). Ruta and Asilulu display zero in all these cases.

To explain this correspondence shall we reconstruct a PAN sound? The fact that in a number of cases we know PAN **k* was the initial sound rules out this approach. PAN did not allow word-initial consonant clusters. What other possible analysis can account for the observed regularity in sound correspondence?

The critical observation here is that these are nouns. The fact that the unknown sound whose reflexes are *y-* and *h-* and zero could not have been present in PAN points to the affixation of some element to these nouns. The most likely addition to a noun is a determiner or article of some sort. In contemporary Central Maluku languages there are at least two noun-markers: PCM **-ə* 'singular noun-marker' and PCM **-a* 'plural noun-marker'. These are suffixes to nouns. In some languages they are optional or their use is rule-governed; in other languages the noun-marker is no longer productive.²⁰³ Could there have been an earlier noun-marker which was prefixed and then later became non-productive just as some contemporary Maluku languages display suffixed, non-productive noun-markers?

Of all the Austronesian languages there is one family which is extraordinarily rich in preposed noun-markers. Every Philippine language has perhaps a half-dozen such markers. Indeed Reid (1978) proposed eleven Proto-Philippine determiners, distinguished for nominative, genitive and locative cases and common and personal nouns. Among the recurring determiners is *si*. In Maranao, Cebuano, Inibaloi and Pangasinan, for example, *si* appears as the topic and nominative personal marker (Reid 1978:51). In Tagalog Schachter (1972:76) identifies *si* as the personal noun-marker used with proper names, kinship terms and titles. Of the thirty-two languages listed in Reid (1978:39) all but nine display *si* as the "personal subject determiner". It is no wonder that Reid reconstructs **si* as the Proto-Philippine nominative personal determiner. Furthermore Reid (1979:261) has reconstructed Proto-Cordillean "long nominative pronouns". All of these display an initial **si-*.

This Proto-Philippine **si* and all other such determiners have an important interrelationship with the complex voice systems of Philippine languages. These complicated voice systems or focus systems are found in languages of the Philippine Islands, in languages of nearby island groups (Guam, Formosa, Borneo and Sulawesi) as well as Madagascar. Elsewhere there is no evidence of a productive focus system in contemporary AN languages. Nonetheless there is some evidence which indicates the existence of focus systems at earlier periods of other AN languages.

Our knowledge of PAN syntax is still at a very rudimentary stage. But even if we set aside the question of the antiquity of the focus system we are still confronted with these interesting noun-markers and determiners because they appear in AN languages which no longer possess an active focus system. One noteworthy non-Philippine language which displays noun-markers which correspond to Philippine noun-markers is Malay.

In Malay there are at least two noun-markers: *saŋ* and *si*. Wilkinson calls *saŋ* "a titular prefix" and *si* "a demonstrative prefix". In modern Malay *si* is often used contemptuously in derogatory reference. Wilkinson observes that "this contemptuous use of *si* is neither ancient nor universal". He notes the retention of *si* in the neutral pronouns *si-anu* *what's his name* and *si-apa* *who*; he adds that *si* "is sometimes used very deprecatingly of oneself . . . or one's young son".

In Sumatran dialects of Malay *si* never acquired the pejorative connotation it has in most Peninsular Malay usages. Rather, "it appears in names of the great spirit *si-kulambai*, of the great dragon *si-katimuna*, of the famous buffalo *si-benuang sakti* and of the unconquered cock *si-kunani*. It is commonly used in personal names and titles."

Kamus dewan (Iskandar 1970) adds other interesting uses of *si* in Peninsular Malay. In addition to the derogatory sense mentioned above, it is used in nicknames and nursery names. When used in reference to one's self, it has the force of self-denigration. It is also used to stress the agent or patient of a sentence. It occurs in verbalised nominalisations; for example, *ber+si+bisu* (MIDDLE+ARTICLE+mute) *to act as if mute*.²⁰⁴ This dictionary also cites a number of plant and animal names in which *si* is a non-productive prefix: *sidiŋin*, *sikədidi*, *sitawar*.

In Indonesian (a dialect of Malay) the use of *si* is more widespread and carries no depreciatory connotation. Echols and Shadily say *si* is "a k.o. definite article used before names (as forms of reference), before non-proper nouns and before words which describe s.o. or s.t., (especially used as pet names)." I have further observed its use in colloquial Indonesian with singular pronouns, for example *si-dia* (ARTICLE+'3sg') *that certain someone*.

Other languages in western Indonesia also display the use of *si* with nouns and pronouns. In Batak, Bali and Madura (where it is *se*) the usage is very similar to Malay.²⁰⁵ In Batak it also appears frequently in nominalisations and personifications, such as in toponyms and zoological nomenclature (Warneck 1977:226). In numerous languages of southeast Sulawesi **si* seems to be prefixed to pronouns.²⁰⁶ There is considerable evidence, then, which justifies the reconstruction of **si* 'personal noun-marker' in the proto-language of western languages of Austronesia.

It is argued here that this **si* was partially retained in several languages of Central Maluku, including the descendants of PEPB under discussion here. In these languages **si* was not restricted to personal names or pronouns; it occurred with all nouns.²⁰⁷ The conditions of its usage are not clear at this point. Nonetheless the wide range of its occurrence in Malay and other languages indicates that it may never have been restricted exclusively to personal nouns. In fact, there are some suggestions that it may have been a respectful noun-marker. At any rate, it is proposed here that **si* was retained in the proto-language of Central Maluku and its descendant, Proto-East Piru Bay.

In Proto-Ambon this **si* was lost. But in Sepa-Teluti it was retained as *y-*. In Paulohi and Saparua it appears as *h-* but only in the restricted environment discussed above. The limited appearance of *y-* in Sepa-Teluti and *h-* in Saparua and Paulohi requires some explanation.

First of all, we note that PAN **s* is regularly retained in all EPB languages. Here we claim that **si-* became *h-* or *y-*. The fact that **si-* was a morphological marker made it possible for **si-* to undergo innovations which did not affect **s* in other reflexes. Special treatment of morphological affixes is well known in

other language families. But, in addition to that general consideration, here it appears that *si- was subject to a different phonetic environment in that it occurred in the pretonic position. Some support for this analysis comes from a word in Sepa-Teluti. Latu displays *sahuto fog, mist*. Haya also displays *sahuto*. In Tehoru both *sahuto* and *yahuto* occur; in Sepa only *yahu* occurs. Either we reconstruct a PPB form **sabut *mist* and assume that in Sepa-Teluti this *s was interpreted as an occurrence of *si- or we presume that these are reflexes of PAN *kabut *fog*. If we accept the latter interpretation then Sepa displays regular shift of *si to y- before *a. The retention of *si as s in Latu is irregular. Apparently at some early stage it was reinterpreted as part of the word: *si-kabut > sabut *fog*. No matter what the ultimate source of *sabut, the alternation of *yahuto* and *sahuto* indicates that *si could have become y- in Sepa-Tuluti.

The retention of the PAN noun-marker *si in Sepa-Teluti, Latu (and other Saparua dialects) and Paulohi was conditioned by the phonetic environment. In words in which *si- was preposed to words with initial *a or *ə the resulting vowel sequence [+high] [-high], led to its retention. Elsewhere it was lost. In diagram form

*si- > hi-/#_[-high]
> Ø /#_[+high]

In Latu and Paulohi **hi- was retained only when the first consonant of the following word was h (from *b). In that case, for example, **hi+ah became hah. In Sepa-Teluti **hi became **i- (later y-): **hi- > i- > y-.

Note that the retention of *si- occurred only in words which in PCM began with a vowel or glottal stop (from PAN *k). Words which are reflexes of PAN words which contained initial *g, *ŋg, *ŋk do not appear with *si-; for example, *(ŋ)karun > ?arun *clothes* and PCM **gamu > ?am *betel leaf*. Apparently the sound changes occurred in a specific order.

1. *k > ? > Ø
2. **si- > hi-/#_[-high]
3. **ŋg > k > ?

So far we have identified two sources of unexpected initial segments in certain EPB languages. We noted some cases in which h was a reflex of PAN *q. We explored the likelihood that h-, y- and Ø are reflexes of the PAN noun-marker *si-. There remain several other words which display unexpected initial segments.

PAN		Latu	Paulohi	Ruta	Sepa	Tehoru	Asilulu
*asu	<i>dog</i>	asuro	asu	asu:lo	wasu	wasu	asu
*aka	<i>elder sibling</i>	wa:	wa?a	wao:	wa?	wa?an	a?a-
*qa(z)ay	<i>jaw</i>	wala	"ala"	wala	walan	walan	alan

PCM

**asu	<i>cheek</i>	wasu	"fasu"	asu	wasu	(fafan)	(ka?ika)
**katan	<i>tongs</i>	atanno	atane	a?ano	watano	watano	atan

In Sepa-Teluti there are two prothetic segments: y- and w-. It has been argued that y- is a reflex of *si. If that is so, what is the source of w-? Let us set aside the possibility of some additional PAN sound. There are two other possible analyses. One analysis would argue that *si became y- or w- depending on the phonetic environment. The other analysis suggests that w- is the reflex of another PAN noun-marker. Like the retention of *si, the retention of this additional noun-marker was conditioned by the phonetic environment.

Before considering the first analysis it is important to remember that at an early stage, that is Nunusaku, *Z became **ʒ. Elsewhere in this chapter I have argued that **ʒ was retained in Sepa-Teluti until a late stage. Therefore in Sepa-Teluti *qa(zZ)ay had become **qaʒa. With that in mind, it is clear that in Sepa-Teluti w- appears before words containing stops or fricatives: wasu,²⁰⁸ watano and **waʒa (later walan). The only known exception is the reflex of *aka *elder sibling*. This irregularity in the kinship system (often marked by irregularities in other language families) is probably caused by contamination from other kinship terms. The parallelism with wali *younger sibling (of the same sex)* and wato *spouse of parent's sibling of the opposite sex*, is striking.

In summary of this argument then *si became w- and y- in Sepa-Teluti. When *si preceded a low vowel which was followed by a coronal occlusive (t, s, **ʒ) it became w-. When *si preceded a low vowel which was followed by a non-coronal occlusive or another segment it became y-. The overriding factor which triggered the retention and the sound changes suggested above was dissimilation.

Another analysis should be considered. This too involves dissimilation. Among Reid's reconstructed noun determiners for Proto-Philippine we note *su, the common nominative determiner. If we assume that *su, or possibly *u, can also be reconstructed in PAN or some language ancestral to both Central Maluku and the Philippine languages, then we conclude that *su or *u was retained in Sepa-Teluti. Here too dissimilation occurred: *su- > hu > u / _{-high} ^{+voc} _{+cor} ^{-voc}. Later *u- became w-.

Bearing in mind the numerous noun-markers which have been reconstructed in Proto-Philippines, the occurrence of two noun-markers in the proto-language of Central Maluku is not surprising. That their retention should be conditioned by the phonetic parameter of dissimilation is also reasonable. Furthermore by arguing for the presence of the noun-marker *su or *u in PCM we can approach other difficult problems.

In addition to the body parts wala *jaw* and wasu *cheek*, Latu also displays worujjo *gall*. In the preceding section we tentatively accepted Chlenov and Sirk's argument positing a hypothetical *wa-, a sort of counter. Under closer scrutiny it appears that w- in the reflex of *qapəju could be a reflex of *su or *u, 'noun-marker'. It was retained under the circumstances specified earlier: a non-high vowel followed by a coronal occlusive *su+əju > wəju > woru-jjo. Latu has apparently retained *su only in the semantic category of body parts. Other AN languages retain noun-markers in certain restricted categories.

This interpretation also sheds light on some difficult reflexes found in WPB languages. Some words in these languages display unexpected initial w-. We have already noted reflexes of *qapəju and *pənu in three WPB languages. The information is repeated here with the addition of two more words.

PAN		Asilulu	Manipa	Wakasihu
*qapəju	<i>gall</i>	welu	wailu	ilona
*pənu	<i>tortoise</i>	wenu	weno	wino
*qisu	<i>shark</i>	weu	weu	wiwo
*(qS)a(rR)u	<i>spirit</i> ²⁰⁹	walu	-	walua

On other grounds in the preceding chapter we have argued for the late retention of *q in Manipa. In the reflex of *qapəju the sequence of events must have been as follows: *su+*qapəju > uqapəju > uapəju > wapəju > waelu > wailu *gall*. In other words, the a of wailu is a retention of *a in *qa. The following **e (from *ə) was raised to i through dissimilation.

In Wakasihu there is unexplained loss of ***wa-*. That it was present at some earlier stage is suggested by the shift of ***e* to *i*, perhaps through dissimilation as in Manipa. In Asilulu the sequence ***waəlu* was treated exactly as ***baəlu* (from **baqəRu new*); ***aə* became *e* resulting in *welu* and *helu*.

In the entries for 'shark' the **i* of **qiSu* was lowered to *e* between two high vowels: **su+*qiSu* > *su+qiu* > *suiu* > *uiu* > *ueu* > *weu*. In Wakasihu, language-specific sound changes which occurred after the permanent suffixation of ***ə* resulted in the raising of both ***ə* and ***e* (from **i*): ***weu+ə* > *weuo* > *wewo* > *wiwo*. The specific sound changes involved here have been considered in the preceding chapter.

Apparently the phonetic and lexical conditions for retaining **su* (**u*) in WPB languages differed from those in EPB languages. In view of the four entries noted here, **su* was retained when it occurred before words which contained a continuant followed by round vowel **u*. There is also a possibility that only certain semantic categories were involved. Both the shark and the tortoise have sacral importance in local beliefs.²¹⁰ If there is such a semantic category, **su* may have been a respectful noun-marker.

Tentatively we conclude that both PEPB and PWPB retained **su*, a noun-marker. The conditions for its retention in each branch of PPB have been suggested here. This analysis is not without its problems. Nonetheless in these pages, for the first time, an attempt has been made to resolve the persistent problem of accretion of unexpected segments in initial position of PAN words. This is a phenomenon which appears in numerous Oceanic languages and even some western Austronesian languages (cf. Popalia). Further refinements of the arguments are necessary. Still the solution offered here represents a significant advance over other approaches.

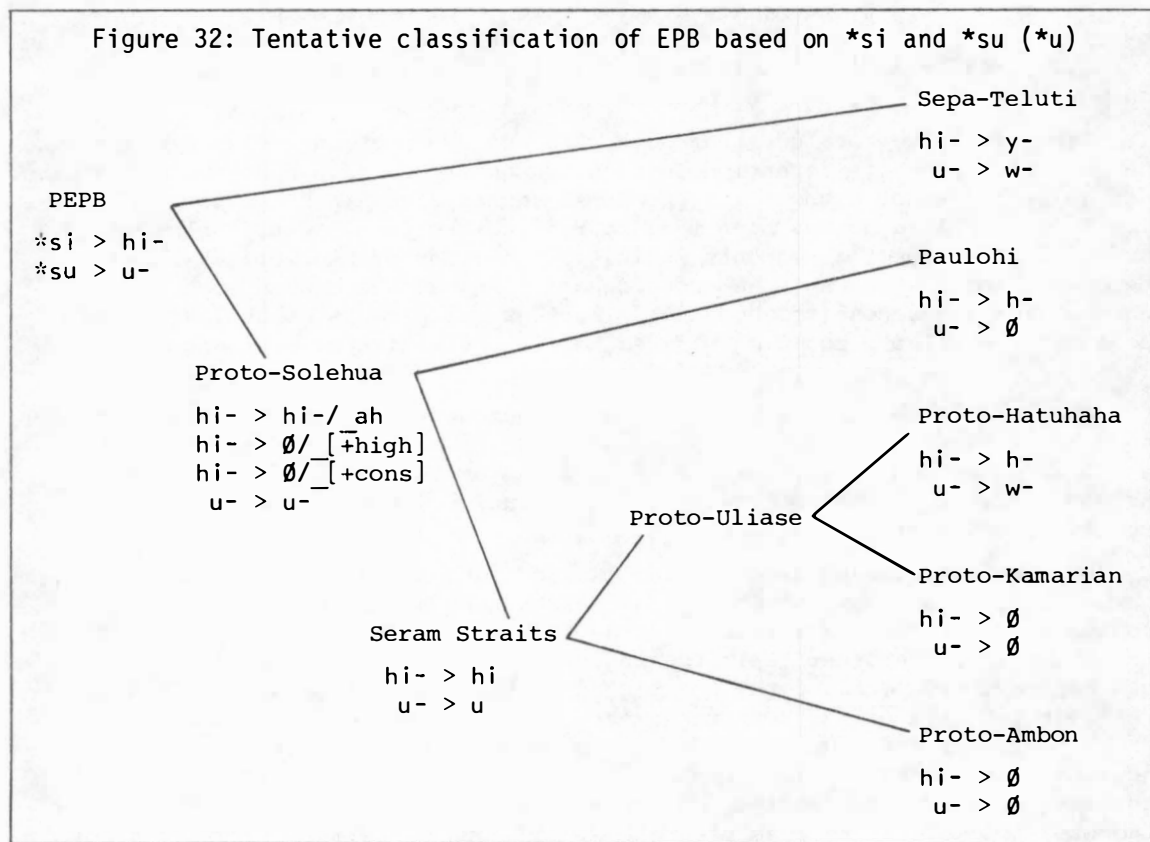
Dyen's solution (1962) to a similar phenomenon in Niala, an unidentified language of western Seram,²¹¹ is unacceptable. He noted that Niala displayed **asu* > *wasu dog* and **anak* > *wana child*. Based on these entries and their partial correspondence to Chamorro data, Dyen's conclusion was that there existed a previously undiscerned PAN sound: **W*.

Dyen and Stresemann used similar tactics in approaching the problem of unexpected initial segments in Central Maluku languages. Each observed the problem and attributed unexpected sounds to a dubious proto-sound, the one "tentative" **W*, the other "Spiritus lenis". The solution proposed here is a less radical one. Some of the unexpected initial segments noted by Stresemann are clear reflexes of **q*. Other segments appear to be retentions of PAN noun determiners, **si* and **su*. At least in the case of **si* we must posit its existence in the proto-language of western Austronesian languages. Thus, instead of insisting on the reconstruction of new sounds in epicyclical fashion, we have attempted to explore the possible role of PAN noun-markers in descendants of PCM.

The less dramatic analysis attempted here yields results of varying strength which in turn require still more analysis and testing. Still the implications for PAN are perhaps more far-reaching than the reconstruction of yet another poorly attested proto-sound. If it is true that the partial retention of certain noun determiners (**si* and **su*) was the source of otherwise unexpected sounds in these Central Maluku languages, then we have uncovered a new and possibly productive starting point for considering similar phenomena in other Austronesian languages. In which case, not only are troublesome sound changes likely to be resolved but we move a step closer to the reconstruction of PAN syntax, one which includes PAN noun determiners.

At any rate, in terms of our immediate concerns, the analysis proposed here confirms the early separation of Sepa-Teluti from other EPB languages. It also strengthens the case for the separation of Proto-Ambon from Proto-Uliase. The position of Paulohi, however, requires refinement. The highly specific change of *si to h- before a low vowel followed by h points to a closer connection between Paulohi and Saparua. Although the geographic proximity of Paulohi to the Saparua-speaking villages of Tumalehu, Hualoi and Latu (about twenty km along the shore of Elpaputi Bay) allows for possible borrowing, for the time being the similarity in the treatment of *si is attributed to an innovation in a common proto-language, here called Proto-Solehua.

In view of this tentative common ancestor of Saparua and Paulohi, the diagram sketching the relationship of EPB languages must be revised. (See Figure 32).



CHAPTER VII

CONCLUDING REMARKS

The classifications proposed by Stresemann require greater precision and, in some cases, considerable revision. The details of those revisions have been set forth in the preceding pages. In pursuing the task of reviewing his subgrouping assumptions, a number of important issues have been uncovered. Some of these issues have direct bearing on the highest branches of PAN. Furthermore, some of the problems dealt with here have theoretical ramifications for historical linguistics in general. Thus, it is appropriate to add a few remarks which make explicit the findings which are relevant to the subgrouping of PAN and which take into account the broader problems of diffusion and genetic relationship.

1. The impact of AN subgroups

In the course of this enquiry two important discoveries came to light. First, the retention of a distinct reflex of PAN * \dagger in PCM was demonstrated. Second, the retention of reflexes of PAN noun-markers **si* and, possibly, **su* was argued to be the source of various word initial 'irregularities' in some languages of Central Maluku.

In 1973 Dahl set forth a number of innovations which he claimed constituted evidence of the bipartite split of PAN into Formosan and non-Formosan branches. The phonetic innovations which distinguished the non-Formosan languages were said to be: the merger of * \dagger "with **l*- and **n*- and **n*," the shift of **S* to **h* and the merger of **t*₁ and **t*₂.

These last two phonetic innovations as well as certain morphosyntactic innovations proposed by Dahl were disputed by Blust (1976:229). Evidence from Central Maluku languages which was presented in Chapter V indicates that the merger of * \dagger and **l*- did not take place in PCM and, consequently, could not have occurred in any language ancestral to it.

If the conclusions presented here as well as Blust's critique are true, the evidence presented by Dahl to support the putative split of PAN into Formosan and non-Formosan is illusory. The implications of this observation are of the utmost importance. The family tree proposed by Dahl and Haudricourt are without support. Similarly the premises for the family tree which Blust proposes require considerable elaboration. Until now only the Oceanic subgroup of Blust's expanded Eastern Malayo-Polynesian subgroup (which includes Oceanic and the languages of

South Halmahera and North New Guinea) have been adequately proven. While it is unlikely that PAN split into forty subgroups (Dyen 1965), some consideration must be given to Dyen's (1978a) and Tsuchida's (1976) claim that Proto-Austronesian split into two primary subgroups: Oceanic and non-Oceanic (Hesperonesian).

It is not the intention here to agree with Dyen (1978a) that the languages of Maluku are Hesperonesian. Indeed, assessment of the precise membership of 'Hesperonesian' requires a much more credible methodology than that used by Dyen (1978a). Rather, the point here is that those linguists who disagree with Dyen's claim of the bipartite split of Oceanic and non-Oceanic have not presented substantial evidence to validate their counterproposals. The evidence regarding the reflexes of PAN *t in PCM has reopened the problem of the primary subgroups of PAN.²¹²

A second issue of considerable importance is the recognition of the role of syntactic markers in PCM. It has been argued that the retention of PAN *si in some descendants of PCM has resulted in the appearance of the prothetic segments y- or h-. Possibly a parallel retention of PAN *su or *u is reflected in the occurrence of initial w- in certain Central Maluku languages. The arguments regarding these initial segments have been presented here. If the analysis proposed here is true, then two critical issues have been introduced in Austronesian studies.

First, although some scholars (Hamp 1973 et al.) have pointed to the importance of considering ancient morphosyntactic systems in assessing sound changes in AN languages, little research has proceeded from that premise.²¹³ For a number of linguists including Stresemann, Chlenov and Sirk, the appearance of unexpected initial segments in Central Maluku languages has been a source of bafflement or, worse, an occasion for facile dismissal. By suggesting that these cases of prothesis in descendants of PCM reflect the interaction of syntactic markers with certain phonetic environments should provide the impetus for further research into so-called 'irregularities' in AN languages.

Only quite recently have scholars begun to consider the syntax of PAN. But even at this early stage there is consensus that PAN must have included noun-markers, articles and numerous particles as well as a rather complex verbal affixation system. Enquiries into the phonological inventory of PAN and its subgroups must keep in mind this large reservoir of syntactic markers. In this way we will achieve an understanding of the evolution of PAN sounds and syntax.

A second issue has developed through our analysis of PCM prothetic segments. This involves subgrouping arguments. It has been suggested (Blust, personal communication) that the occurrence of "/y/ accretion . . . before initial *a and *qa (after *q > Ø)" may be an innovation shared by languages of eastern Indonesia and Oceania. However, the argument presented here makes that conclusion unlikely.

It would appear that the occurrence of h and y as reflexes of the same sound weighs against the possibility that both are descended from *y. It is awkward to suppose that h derives from *y. Instead these reflexes point more obviously to *s, that is *si, a marker which has already been reconstructed in the PAN lexicon. It may be that the Oceanic languages reflect *y but Central Maluku languages reflect *si.

Secondly, not only do Oceanic and Central Maluku languages display y (before *a and *qa) but so does at least one language of western Austronesia: Bonerate (and closely related Popalia). So, even if it were true that the reflexes in

Central Maluku and Oceania are descendants of *y- (through y- accretion), the presence of y- in the pronoun series of Bonerate indicates that this could not have been an exclusively shared innovation.

Thirdly, the occurrence of prothetic w- in other Central Maluku languages and even in the same Central Maluku languages which display y- (i.e. Sepa-Teluti inter alia) indicates that we are dealing with a problem of broader scope than innovative accretion. These two prothetic segments which in Maluku occur exclusively with nouns strongly indicate the presence of syntactic factors. These syntactic factors, namely the obligatory marking of nouns, are not restricted to a single branch of PAN. Indeed such marking systems have been reconstructed in PAN and have been retained in numerous languages.

In short, the occurrence of prothetic segments in Central Maluku languages can not constitute evidence in any subgrouping argument involving Central Maluku and Oceania because it is a retention and not an innovation.

In summary two significant phenomena came to light in the course of this research: the retention of a reflex of PAN *t- distinct from *l- and the retention of a PAN noun-marker, *si and possibly *su as well. These two retentions have important ramifications for the subgrouping of PAN. Furthermore they indicate the value of sifting through the details of each language despite the acknowledged universality of a certain merger. The critical significance of syntactic markers in PAN as well as in the evolution of its descendants is well attested in PCM.

There are other topics in Central Maluku languages which have not been considered here. The importance of the grammatical marker *tə- in Central Maluku, Polynesia and elsewhere has only been touched upon here.²¹⁴ The apparent retention of a reflex of PAN *S, possibly as a sililant, in PCM has not been discussed.²¹⁵ The striking occurrence of verbal suffixes *i and *u in numerous descendants of PCM which parallels similar phenomena in Pawan (Formosa) and several Oceanic languages also has not been dealt with.²¹⁶

It would not be surprising if enquiries into these topics would prove to be relevant to PAN. The languages of Central Maluku already have been demonstrated to be of crucial importance in the reconstruction of PAN and its subgroups. Their importance does not lie simply in attesting the retention of a certain proto-sound but, rather, in providing methodological guidelines for further research regarding AN languages.

2. Propinquity and collaterality, diffusion and difference

The relevance of the analysis attempted here is not limited to Austronesian studies. In assessing the findings of this study, two questions should be addressed. First, what inferences can be drawn from the dispersal of the languages of western Seram? Second, assuming that the arguments regarding the order and mechanisms of mergers and losses are true, what are the implications for the reconstruction of the sound systems as well as determining the descendants of proto-languages?

In answering the first question, we note that in the preceding pages we have made detailed enquiries about the languages of westernmost Seram and the adjacent islands. We have argued for the reconstruction of a family tree for those languages. This family tree makes certain claims about the inter-relationship of the languages spoken in the area. The validity of this reconstruction has been tested word by word. How do these words and measurements relate to geographic and cultural facts in the area?

Certainly linguistic reconstruction is not dependent on historical documents, archaeological theories or folk traditions. Nonetheless, there should be no reluctance to compare the findings of historical reconstruction with non-linguistic data. At issue here are the dispersion characteristics reflected in the evidence presented. That Boano's closest relative is Wakasihi or that Batumerah is a Manipa language despite the fact that more than one hundred kilometers of open sea lie between each of these pairs requires some comment.

Of course, we are not dealing with the dispersal of languages across a vast continent with mountain ridges and river valleys. Interinsular language families must certainly display characteristics unlike those of continental groups.²¹⁷ But the issue is not simply a conglomeration of geophysical factors: sea currents, seasonal winds and navigable distances between capes. Certain sociocultural facts are involved as well.

The first Europeans in Maluku from Pigafetta to Francis Xavier remarked on the incredible number of indigenous languages. They could also have commented on the fierce independence of each village, indeed of each clan. Even to this day it is difficult to name a language because the people of Maluku have no names for the languages they share; in fact often they deny that they do share them. So the serious cultural upheaval caused by the incursion of the Europeans, first the Portuguese then the Dutch, brought about numerous unusual linguistic situations. This is especially the case in West Seram as a result of the depopulation of Hoamoal, the expulsion of Muslims from Saparua, the gradual elimination of interior hamlets and other colonial policies of the seventeenth century and later.

Throughout these pages linguistic connections are proposed which from a geographical point of view may seem outlandish. The relationship between Wakasihi and Boano or Alune and Sawai are perhaps among these. The issues must be judged entirely on linguistic grounds. We know large-scale dispersal took place fairly recently and we may be relatively certain that pre-colonial population movements were not unlikely. The sea, no matter how tempestuous, is a highway and not an obstacle. The forests, no matter how dense, can be traversed by small armed bands; no snow-covered peaks or dangerous animals hinder the passage.

That the speakers of languages moved considerable distances and that they persisted in speaking their own tongues although surrounded by other more influential languages is not a hypothetical possibility, but must be accepted as a central fact in linguistic research in the area. For that reason the far-flung membership of a certain branch or subgroup cannot distract us from the linguistic grounds upon which that membership is based. In fact it is through linguistic reconstruction that the baffling diversity and fiercely guarded autonomies of the area begin to resolve into a pattern of relationship, both ancient and fundamental.

Having stressed the independent characteristics of both the languages and their speakers, it is perhaps something of a contradiction to discuss contact and diffusion. Yet loanwords and sound innovations travelled the same seas and forest paths. Just as certain languages are far-flung, certain innovations are widespread.

In discussing sound correspondences in Boano and in Sepa-Teluti it became apparent that certain PAN sounds were retained which had merged in all the other languages of Piru Bay (and elsewhere). The reconstructed family tree, however, demonstrates that neither Boano nor Sepa-Teluti are separate branches of Piru Bay distinguished by their retention of archaic sound distinctions. Rather,

despite these retentions they have undergone a number of innovations shared by other languages in the group. The conclusion is that the merger of PCM **ʔ* and **l* did not take place at the time of the split up of Piru Bay. In fact, for example, Boano's close connection to Wakasihu, a language in which these sounds have merged, indicates that until quite recently Wakasihu must have retained the distinction as well. In short, the merger under discussion is a parallel innovation that took place in languages already distinguished from each other by other innovations.

The evidence is equally striking with regard to **q*. It has been noted elsewhere that it is necessary to reconstruct **q* for Proto-Central Maluku.²¹⁸ That argument was based on the sporadic retention of reflexes of initial **q* in Kamarian and perhaps Asilulu, as well as the treatment of reflexes of intervocalic and final **q* in Manipa and Alune. The validity of this conclusion drawn from detailed analyses of sound phenomena is bolstered by recently acquired data from Watubela,²¹⁹ a language of the Geser-Goram group, where **q* is retained in all positions.

The loss of **q* in both Three Rivers and Proto-Piru Bay, then, has been proven to be a late change. It could not have been a diagnostic change which distinguished one branch of Pitu Bay from the other or distinguished Alune from Proto-Piru Bay.

Such is the case with the loss of **p* as well. Based on the Boano and Wakasihu material alone, it is evident that **p* > \emptyset some time after the vowel change rules in those languages. Likewise loss of **p* in Manipa as well as Alune must have followed the respective vowel changes in those languages. These conclusions are validated by the occurrence of distinct reflexes of **p* in Paulohi, Wemale and Sepa-Teluti as well as the partial retention of a reflex of **p* in Hatuhaha languages.²²⁰

If our analysis regarding loss of **y* in West Piru Bay is correct (cf. Chapter V), then loss of **y* is also a late change in most languages. It is not diagnostic because it occurred through contact.

In summary a number of mergers and losses have been formulated. They are:

1. **Z*, **D*, **R*, **j*, **l* > ***l*
2. **q* > \emptyset
3. **p* > \emptyset
4. **y* > \emptyset/a_a

But none of these widespread innovations is of value in determining the family tree of these languages. Three of them are innovations by loss and such innovations are not diagnostic (Hamp 1953). The other has been demonstrated to be a late change. In other words, at least four important sound changes in the area occurred through diffusion. This results in two problems.

First, languages which are quite distinct from each other came to look more and more like each other because of these changes. It is no wonder that Dyen speaks of dialect chains or that Esser hoped for the evidence of a single language in West Seram. Diffusion has obfuscated differences.

Second, languages which retained the sounds which were later merged or lost in other languages now seem to be quite different when, in fact, other languages are differentiated from them not by unique innovations but by diffusion of a sound change. It is no wonder that Stresemann excluded Geser-Goram from the

Seram language group. In the Watubela dialect it retains *q in all positions. But based on the data presented here we know that Nunusaku must have retained a distinct reflex of *q until rather recently. Thus the exclusion of Geser-Goram requires reconsideration. Retention has obscured resemblance.

In general, then, the inference to be drawn here is that it is necessary to pay attention to the smallest details of sound correspondence without being distracted by non-linguistic factors such as geographic distribution and, to some extent, without being distracted by even linguistic factors, in particular some obvious and widespread changes. Dispersal and diffusion have obscured the ancient relationships.

APPENDIX

List of informants consulted in the course of the author's recent field-work (October 1977 to August 1979).

A. Villages in western Seram and the adjacent islands.²²¹

Allang (A)	E. Patty, O. Huwae, K. Patty.
Asilulu (A)	F. Ely, A. Mahulette.
Boano (B)	Ibrahim Nurlete.
Buria (S)	G. Lumuli, T. Tenine, H. Latue.
Eti (S)	A. Risaputi, P. Solesala.
Haruru (S)	D. Maatoke.
Hatunuru (S)	D. Latualia, H. Rumaheeran.
Hatusua (S)	P. Tetehuka, O. Latumahina.
Haya (S)	Mohd. Haturuayu.
Henalima (A)	Harun Mahulauw.
Hila (A)	Hj. Ismail Ollong.
Hitu (A)	Ibrahim Pelu, Tahir Pelu.
Hualooi (S)	Husen Amat Said.
Hukuanakota (S)	J. Soriale, C. Taniwel.
Hulung (S)	M. Wemale, E. Neuwe.
Hunitetu (S)	O. Latu, Y. Laiuli.
Iha-Kulur (S)	A.S. Uya Latukaisupy.
Kaibobo (S)	F. Riry, L. Kermite.
Kailolo (H)	Rahim Marasabessy, Rahman Latukonsina.
Kairatu (S)	W. Rusfana, A. Rumalatu, W. Akolo.
Kaitetu (A)	Yasin Hatuwe.
Kamarian (S)	A.Y. Putirulan, A. Pasererung, Y. Pariamu.
Kasie (S)	U. Mauwen.
Kawa (S)	Mohd. Ely.
Kelang-Asaude (M)	Usman Kakauwe.
Kulur (Sp)	Husen Tuahuns, Niu Tuahuns.
Laha (A)	Thamrin Kaliky.
Larike (A)	Abdullah Holak, Durman Sawet, Abdullah Latuapo.
Lasahata (S)	Y. Niwele.
Latu (S)	Ali Patty, Noho Patty, Mujahir Patty, Mochtar Patty.
Lisabata Barat (S)	A. Pattilouw, A. Najjar, Abd. Rauf Pattilouw.
Lisabata Timur (S)	K. Sitania, Abd. Muin Sitania, S. Lakuanini, Talib Jailolo.
Lohia-Sapalewa (S)	P. Tibalelatu, H. Makulesi, B. Manakane, C. Kwalumini.
Lohia-Tala (S)	M. Makerawe.
Loun (S)	A. Lumalesi, M. Patulepui.

Luhu (S)	Hj. Abd. Rahman Payapo, Suleman Waliulu, Abd. Ghani Laitupa.
Luhutubang (M)	Abd. Rahman Tetulau, Salim Sulehu.
Lumamoli-Pelu (S)	L. Suala, H. Palasate.
Lumoli (S)	Olof N.
Manusamanue (S)	A. Kapitan, E. Wemay.
Masihulan (S)	H. Asomate.
Murikau (S)	H. Nurue, A. Salenussa.
Murnaten (S)	J. Latue, J. Seay, H. Nurue.
Naka'ela (S)	E. Ely, Y. Hilewe.
Noniali (S)	M. Sekerone, A. Sekerone, J. Nauwe.
Nurue (S)	N. Matitale, A. Rumasol, U. Rumasol.
Nuweletetu (S)	M. Malalu.
Paulohi-Samsuru (S)	A. Lohy.
Piru (S)	Sosana Kekelesi
Riring (S)	T. Souhaly, L. Souhaly.
Rumbatu (S)	Y. Taniwel, F. Tenine, F. Wemay.
Rumakai (S)	Isak Y. Kakerissa.
Ruta (S)	U. Leparissa, Hj. Mohd. Nur Latarissa, T. Lewenussa, Abd. Khair Sengaji.
Sanahu (S)	A. Taeyani, O. Taniwele, O. Taeyani.
Sawai (S)	U.I. Tomagola, N. Ipsenen.
Seit (A)	Awat Hataul, Zulkifly Hataul.
Sepa (S)	Durhim Wakanou, Adam Sopalatu, Talib Wakanou, Hassan Sopalatu.
Tamilouw (S)	M. Tomagola.
Waesamu (S)	Y. Lealessi.
Wakasihi (A)	Hasan Sanduwang.
Wakolo-Patahue (S)	A.H. Koli, O. Lumuli, M. Messen.
Waraká (S)	F. Lohy.
Waraloin (S)	S. Kataiane.
Yalahatan (S)	B. Marahina.

B. Villages elsewhere in Maluku.

Banda Elat (Kei) ²²²	L.O. Rumra, P.S. Suat, S. Bugis.
Banda Eli (Kei) ²²²	M. Semasa, Z. Uwar, T. Latar.
Buru ²²³	Anton Lesnussa.
Dubél (Aru) ²²⁴	A. Maita, P. Elpupin, Y. Karam, L.A. Firloy.
Efa (Watubela)	Mohd. Saman
Geser (Seran-Laut)	Mudin, Jumaat, Udin.
Kiandarát (E. Seram)	Modh. Jen
Kilmuri (E. Seram)	Jaffar
Ngaibor (Aru) ²²⁵	J. Ngebursiang.
Popalia ²²⁶	La Mohamad, La Samiun.
Rohua (E. Seram)	Komisi
Serua (S.E. Maluku) ²²⁷	F. Resley.
Wailua (Ambelau)	T. Mahu, R. Latukonsina, Z. Soulissa, I. Soulissa.

NOTES

1. See Pawley (1973). Lincoln (1977) relying on more detailed information from New Guinea and Oceania estimates one thousand.
2. Marsden (1850), Pijnappel (1863), Roorda (1855), Encarnacion (1851), Hardeland (1858), van der Tuuk (1861, 1864, 1867), Matthes (1859), van Ekris (1864-65), Hazelwood (1850), Davies (1851) and Maunsell (1862).
3. Teeuw's preface to the 1971 republication of van der Tuuk's Toba Batak grammar contains an excellent essay on van der Tuuk's contributions to linguistics.
4. Dahl's book (1973) provides an interesting perspective on Dempwolff's philosophical and methodological assumptions.
5. There have been numerous criticisms of Dyen's approach and conclusions, especially with regard to homeland theories. It is instructive to refer to Grace's (1966) review of Dyen which includes Dyen's rebuttal.
6. In this respect, Dyen's review of Dahl (1959) is noteworthy because he criticises Dahl's method of reconstruction and suggests that lexicostatistics is a more dependable method.
7. See, in particular, Grace (1959), Pawley (1972) and Blust (1978a).
8. Biggs is currently engaged in developing a Proto-Polynesian lexicon of some three thousand entries (Pawley, personal communication).
9. For example, in 1974 Blust withdrew a reconstructed lexical item he had posited in 1969 because a reanalysis of the facts suggested that Buru and Oceanic languages shared a common ancestor.
10. See Esser's reports posthumously published in *Bijdr.* 119.
11. Although this book antedates Stresemann's 1927 book, it apparently was not known to him.
12. Roger Mills (MS. 1977) recently completed an index to Stresemann (1927).
13. A list of the villages involved in my fieldwork and most of my informants appears in the Appendix. Whenever useful, I draw upon information which I collected in earlier surveys (1972, 1974 and 1976) of some of the languages of the area.
14. Stresemann's orthographic presentations of PAN sounds have been modified to conform to contemporary usage. The symbols he chose to represent some of the sounds of 'Ur-Ambon' have been replaced with clearer symbols; for example PAN *nt, *nd became *nd not "d" as Stresemann wrote.

15. Note that both *p and *k are [+grave].
16. In fact, this language, Sepa-Teluti, extends as far as Folin. See Chapter VI.
17. See the remarks of Robins (1967:178-81) and Pedersen (1931:242) about Schleicher and the natural sciences. Also of interest are the recent developments outlined by Platnick and Cameron (1977).
18. This is not consistent with the position which Chlenov and Sirk took in 1973. In that paper Kayeli is disassociated from Buru languages.
19. Most of the subgrouping based on lexicostatistics is beyond reach of critique and in that sense stands outside scientific interest. Unless the data can be examined and criticised the conclusions of lexicostatistics are of little interest to historical linguistics. The only controlling factors are the computations themselves and the interpretation an individual author gives them. When those computations are strangely skewed, the lexicostatistician can choose to attribute it to "indeterminable interlinguistic borrowing". Intuition seems to replace standard procedure.
20. In my field notes Kailolo (Haruku) displays still another conjugation. For example, PAN *Raməs *squeeze* (Malay ramas and Buru hame-k)

1sg	au rame	1pl.e	ite rame
		1pl.i	ama lame
2sg	ale lame	2pl	imi rame
3sg	ire rame	3pl	sire sirame

It is not clear if the Haruku conjugation can be reconstructed in PCM. It is strikingly similar to a conjugational paradigm transcribed in Watubela (E. Seram). PAN *dəŋəR *hear*

1sg	ak loŋon	1pl.e	kita kloŋon
		1pl.i	kami kloŋon
2sg	kau doŋon	2pl	kemi doŋon
3sg	in loŋon	3pl	ila dloŋon

21. The conjugation of the verb 'to eat' displays retention of the k- conjugation which has been lost in other verbs with initial *k- (*kə(dD)əŋ, etc.). The alternation of h and Ø appears as follows:

1sg	aune hã?ă	1pl.e	amine hã?ă
		1pl.i	cene hã?ă
2sg	anene hã?ă	2pl	imine hã?ă
3sg	ene hã?ă	3pl	reli lahã?ă
22. There are, however, remnants of conjugations (Collins 1980b).
23. For example, there are watasulu/patasulu *fall forward at an angle*; watahaka/patahaka *fall backwards from a seated position*; watapekek/patapelek *fall sideways*.
24. In fact, some informants claimed that certain clans used kanu *eat*, while others used anu. This is not likely. The informants (aged about forty years) simply did not understand the concept of conjugation; that is they did not use the conjugational forms correctly. They recalled different forms but reinterpreted them. This language is nearly extinct.
25. In addition to the Manipa conjugation cited in note 21, Eli-Elat (Kei Besar) has a remarkable number of irregular verbs.

26. Lynch (1973) argues that the possessive construction in Melanesian languages has an essentially verbal nature. The difference between alienable and inalienable constructions, for example, are "seen as a classification of relationships not of nouns." Nonetheless this does not imply that there is an intrinsic connection between SVO order and Possessor-Possessed order (Gen+N) in Austronesian languages. As Bradshaw (per littera) points out this parallelism is limited to distinct geographical area.
27. When the possessor is a noun instead of a pronoun the pronominal marker *ŋ* or *iŋ* is used. In a recorded conversation (January 9, 1978) two examples occurred: [baba ede *iŋ* ana] and [baba edeŋ ana] *Uncle Ede's sons*.
28. Kaitetu displays forms such as *muhuk muhuk bits*, apparently from *muhu+ku*. This *-ku* should be compared to *ru* in Asilulu, a 3pl pronominal marker.
29. Blust (1977:5) reconstructed a doublet pair **ni-a/i-a* '3sg genitive'. He also considered the initial **s* of Dempwolff's **siDa* a reflex of the personal article **si*; so he reconstructed **iDa* '3pl genitive pronoun'.
30. Jonker (1906:288) says that Kern considered *lo* in Sapparua an article ("lidwoord").
31. Asilulu and Kaitetu suggest a prenasalised form of the PAN demonstrative **tu*. The *lu* forms are unexplained. The striking occurrence of *le/li* in Hitu, Hukuanakota and Hunitetu is unexplained.
32. See Collins (1981) regarding the relationships of Buru to the languages of western Seram.
33. In Haya *-ti* occurs in participial constructions: *peketi broken*, *pisati cracked*, *fofoti smashed*, etc. In these cases *-ti* conforms more closely to Jonker's opinion that *-t* replaces *-n*.
34. Other uses of *-t*, especially in Buru are not so clear. For example, it occurs in some kinship terms such as PAN **ipaR* > *ifat sister-in-law* (woman speaking) and **paRa* > *nahat brother (woman speaking)* but not in others. Also, in the Asilulu data, there are a few occurrences of *-k* or *-l* which mark dependent verbs; for example *luma nde aela* means *this house is big* but *luma elak big house*. Likewise we note *sahe buy* and *ijasa sanahel a bought diploma*, with infixation of *-an-*.
35. It is unclear whether Popalia's use of *te* can be related to *te* which Anceaux (1952:49) described in his study of Wolio, a language closely related to Popalia.
36. Chung (1973) has noted the use of *te* *article* in the nominalisation processes of many Polynesian languages. Like Popalia, these languages prepose *te* to the relevant material. Tsuchida (personal communication) notes a similar construction in the Tsouic languages, for example, *canúmu water* and *taa-canum-a water tank*; *viáru maize* and *taa-viáru-a maizefield*; etc. This *ta(a)-...-a* occurs with both nouns and verbs to form 'abstract' nouns.
37. It is interesting to note that in at least one non-Austronesian language in the area, Tobelo, verbal phrases (e.g. 'the black book') are expressed through nominalisations (e.g. 'the book's blackness') (Taylor, per littera). This suggests a connection between abstract nouns and dependent verbal phrases.
38. Hamp (1973) has argued that the near equivalence of PEO **s* and **ns* is "suggestive of a feature of dead or moribund morphology." The development of nasal clusters through morphological alternation, then, is not restricted to PCM.

39. Ludeking (1868) and van Ekris (1864-65) provided some 'Alfuren' vocabulary. Tauern (1928-31) included brief grammatical sketches of Wemale and 'Makabala'. Sierevelt, a lieutenant influential in the suppression of the mountaineers' independence, wrote a language handbook of 'Makahala'. This book, discovered and published by Sachse in 1920, includes six practical dialogues, some vague grammatical notes and a large vocabulary estimated by Niggemeyer (1952:53) at about fifteen hundred words. Stresemann (apparently unaware of Sierevelt's book) drew on materials collected during the second Freiburg expedition and wrote briefly about Sapalewa and Wemale (1918, 1927). Niggemeyer (1952) published several texts, a wordlist and grammatical notes on the 'Alune' language.
40. The exception was, of course, van Hoëvell. In 1877 he asserted that the language of the 'Patasiwa-Alfoeren' who lived in the upper reaches of the Eti and Sapalewa Rivers was closely related to the Piru-Luhu language, a 'Hoamohel' language. The 'Patasiwa-Alfoeren' language is apparently Alune. Apparently Stresemann was following van Hoëvell (as he did in a number of instances) when he classified 'Sapalewa' (i.e. Alune) with Piru. See Chapter II.
41. This Hulung is not to be confused with Hulung mentioned by van Hoëvell. Apparently he was referring to Hulung on the west side of Piru Bay. Today no remnant of an indigenous language has survived there.
42. A close examination of one hundred and seventeen words of Awaiya recorded by Wallace indicates that in December 1859 the language of that village was an Atamanu language or a language very closely related to the contemporary Atamanu dialects spoken in Haruru and Yalahatan. Wallace remarked that the people of Awaiya had only recently settled there, having moved from "the inaccessible interior" (1869:271). By his report we know the hinterland of north Elpaputi Bay no longer contained indigenous villages. Today local elders believe that the Atamanu people originally lived in the mountains north of contemporary Waraká. If that is so, these people apparently inhabited the forests south of Loun and Sawai.
43. Yalahatan speakers asserted that the modern site of their village dates to only two hundred years ago. It is also interesting that the people of Luhu and Yalahatan have independent traditions that claim descent from the same clan.
44. This may indicate a connection to PAN *taqun year. If that is so, several central Maluku languages display a shared semantic innovation. PAN *taqun year; a full, complete cycle of the sun was generalised to mean full, complete. (Occurrences of taun year in some Alune dialects are regarded as loanwords from Malay.) However, Piru Bay languages suggest a reconstruction of **taun or **taSun. See Chapter V, section 2.
45. Tsuchida (personal communication) suggests, quite convincingly, that PCM **nga(q)u(ln) may be related to PAN *qauR/*kauR a type of bamboo.
46. Neither Alune nor Asilulu retained a reflex of PAN *ma-iRaq red. It is assumed that in Asilulu (and other descendants of Proto-Piru Bay) a stative affix was prefixed to the word for areca nut; so, *ma-saqu meant *having an areca nut quality*. Since throughout south and southeast Asia areca is used with betel leaf and lime as a mild stimulant whose chief visual affect is permanent red-staining of the interior and orifice of the mouth, the semantic association with 'red' is not unlikely. Note that in Alune lalakwe means both *red* and *blood* (from PAN *daRəq). One should compare areca to orange in English.

47. In this case final -t is the nominaliser suffix while ina is a counter; so, *soit ina that which has been sewn* (later, *soit na-i*, where -i is a third person marker), except that *soi* does not occur independently in Alune with the meaning 'sew'. Note, too, that in Lohia-Tala and Nurue I elicited *soet* not *soit*. These may have been misheard or they may reflect a change in Alune languages spoken on Seram's south shore.
48. In Chapter V, it is argued that *tuhaute* derives from **tatutu*-haute where *tutu* *pound* and *hau* *split with a wedge*. Final -te is a nominaliser suffix.
49. The Murnaten form *oe* is considered a loanword from Lisabata Barat.
50. This is from Noniali dialect; Lisabata displays *hua*.
51. The -n which appears in Atamanu and elsewhere in the reflex of **baSu* is a suffix; it is the reflex of PAN **ni* '3sg'. So, *hau-n* means *its odour*.
52. It may be that the irregular forms in Yalahatan and Haruru are loanwords from nearby dominant languages. Haruru speakers are also fluent speakers of Amahai in which the relevant reflexes are *hau-no odour* and *mau-ire finely granulated*. Similarly Tamilou is only one kilometer to the west of Yalahatan and most Yalahatan speakers are bilingual in Tamilou. Tamilou also reflects *haun odour* and *maun finely granulated*. The highly specific meaning of 'finely granulated' contrasts sharply with the more general meaning of 'small' or 'small-leaved (of plants)'. Borrowing, then, is also a possibility.
53. This analysis may require a closer look at Sawai. Perhaps *haun* is not a borrowed word. It may indicate that Sawai underwent the rounding shift at a time when it was restricted to words with final -n. Later Alune and other languages generalised this innovation to open syllables as well. If this is correct, then we must assume that Sawai split from Proto-Northwest Seram after Proto-Northwest Seram and Sawai had split from Atamanu. This refinement in the family tree requires investigation.
54. In addition to the words cited here there are, of course, numerous cases in which -i '3sg' is suffixed to words ending in a vowel. These late, morphologically motivated sequences of *ai* are not considered here.
55. These entries should be compared to Asilulu *kai lapun tighten a shirt*; *kai waka have intercourse* (slang).
56. These remarks were published posthumously in 1929. Stresemann's 1927 comments antedate these.
57. In all Tauern cites four reasons: articulation, phonetic length, comparative evidence and stress placement rules.
58. Apparently 'q' here represents kw. It was probably an independent innovation. See the following note.
59. In some dialects spoken on Aru (Dubé^l et al.), this g became k. In others (Ngaibor et al.), after the development of g, *w became zero resulting in **waSir* > *gaer water* and **wakar* > *gaker root*.
60. Another important trade item is Agatha resin. This word, too, is frequently a loanword (*kamale*).
61. This neatly parallels the apparent late retention of **əy* and **ay* in Soboyo. Note the following examples: **qa(zZ)ay* > *ade jaw*; **talisay* > *talise a tree species*; **maCəy* > *mate dead*; *qaCəy* > *ate liver*.

62. This form is found in Nurue; Lohia Tala displays malaβaʔwe. In Murnaten there is unexplained loss of l: maβakwe. Wemale displays regular loss of *l between like vowels. Does the loss of l in Murnaten represent borrowing?
63. This may be a borrowing from a Piru Bay language. Nearby Kamarian, for example, displays manaʔa.
64. Stresemann (1927:138) reconstructed *nipa(y) based on a misinterpretation of the Batumerah data. Batumerah is an extinct language formerly spoken on the south shore of Ambon Bay. Several mid-nineteenth century wordlists survive (Wallace, Ludeking and van der Crab). Based on close comparison with other descendants of Proto-Hoamoal (see Chapter V), we conclude that transcriptions such as "niay" *snake*, "naway" *a palm*, "mahinay" *woman*, etc. are instances of permanently suffixed noun-marker *-ə. Compare these to the Luhu forms. Chlenov and Sirk (1973:69) reconstruct PAN *nipay, noting, without proffering evidence, that the "reconstruction is reliable enough". Pending the appearance of the necessary evidence *nipaw is reconstructed here. However, Blust (personal communication) has pointed out that several AN languages (Maranao, Lamboya and Waijewa) indicate *nipay. Such a reconstruction in a language ancestral to Proto-Central Maluku is difficult to reconcile with the Alune and Naka'ela evidence. Do these Seram forms reflect a late innovation?
65. Elsewhere *-ə has been defined as a noun-marker. Its appearance with adjectives ('new' and 'long') requires some comment. In Luhu, a descendant of Proto-Piru Bay, we note ela *many* but elaʔa *large*. Based on this doublet pair we conclude that the form with the suffixes plural noun-marker *-a was reinterpreted as an adjective; that is Adj+N-marker]_{NP} > Adj+N-marker]_{Adj}: 'large'+N-marker = *the large ones* > *large*. Apparently this reinterpretation of the nominalised adjective as an adjective occurred in Alune as well. This accounts for doublet pairs: belu and belukwe, nanu and nanukwe.
66. Another PAN noun with final *uy did not retain a trace of *-y because it no longer appears as an independent noun and, hence, it takes no noun-marker. PAN *babuy > babu *pig*. In Alune the entry for *pig* is apale; babu is retained only in compound nouns such as mum babu *gnat* beside mumu *mosquito* (hunters remarked that the presence of gnats in the forest was a sure indication of a nearby boar) and kalate babu *a large black lizard with a mouth which extends like a snout* beside kalate *inedible lizard*. Among the Alune dialects only Hukuanakota displays babu *domestic pig*; this may be a borrowing from Wemale.
67. They are Masihulan, Nuwelitetu, Waraka, Sanahu, Lumamoli-Pelu, Waraloin, Hatunuru, Kasie, Lasahata and Hunitetu. These villages are underlined on the map. The present-day settlement of Waraloin is now located on the north coast near Uwin and Hatunuru.
68. Still earlier authors noted costume and diet differences between the two groups.
69. Stresemann's orthography is replaced here with one more consistent with current PAN studies.
70. Unexplained loss of final -a.
71. In addition to this example of shifts within [+grave], E. Hamp (personal communication) also noted Romanian kt, ks > pt, ps as γ > v and v > γ in Scottish Gaelic and -x- > -f- in S. Marzano Albanian.

72. Strictly speaking this reconstruction cannot be attributed to PAN because reflexes of it are found only in some Oceanic and Maluku languages (Blust 1982). For convenience it is listed here as a PAN reconstruction but in fact it is only a lexical item reconstructed in a proto-language older than PCM (perhaps Blust's PECMP?). The reader should bear this in mind both here and elsewhere in the text.
- Nonetheless, it is almost certain that this form is related to certain Formosan forms. Tsuchida (personal communication) reconstructs *mangse(1R) *pygmy deer* based on such forms as Ami mangcɿl. The direction of the semantic shift implied here is of extreme importance to the determination of the homeland of the Austronesian peoples.
73. *Nose*.
74. This form may derive from a compound of *bibɿR *lip* and *ŋu(n)su *snout*.
75. Stresemann (1927:41) introduces a symbol χ which he calls a "stimmlose palatale Spirans". He indicates that this χ and s are reflexes of PCM **nd. This is incorrect. In fact, in the two entries which he cites, these sounds are not reflexes of **nd but of *s. In both salune and nisu/ni χ u, *s did not undergo prenasalisation.
76. I assume that this single exception is due to interdialectal borrowing. Similarly the fact that Buria and Riring do not display consistent treatment is certainly due to borrowing. Before the Dutch suppression of the Alune (about 1910) Riring-Lumasol was an important cultural center boasting an extraordinarily large population. After the Alune defeat, the Dutch established a garrison in Riring. Prisoners and petitioners all passed through Riring to which a well-engineered horse trail was constructed so that coastal villages could also reach the colonial administration. Buria is the mountain Alune village most accessible to the coast. It is less than a six hour hike even today when there is no trace of the old colonial military road. Furthermore for some time (during civil disturbances, 1957-1965) the people of Buria lived on the coast near Taniwel. It is not surprising, then, that these two villages display inconsistent reflexes.
77. The unexplained exception is the reflex of **ke(n)ta.
78. I use this term realising that rhotacism in Latin occurred under different conditions. In Latin invervocalic *s > r (through *z, according to Sturtevant 1947:68) whereas in Alune the condition was prenasalisation of *s. Note that the shift of *z to r is attested in Latin, Umbrian, certain ancient Greek dialects, Sanskrit and west and north Germanic.
79. When I recorded a five hundred word vocabulary of Waraloin, I transcribed [b] but after checking through repeated elicitation I corrected this to [p]. There may be a question of tenseness involved here.
80. Stresemann (1927:57) says that *b > p in Loun. On the whole my fieldwork with the few surviving speakers of that language confirmed this but in one case f was the unexpected reflex. This may be due to the fading memory of the informants or it may reflect an earlier articulation closer to [ɸ].
81. These entries are from Wallace (1869), possibly "ph-" indicates [ɸ] and "-wh-" [β]. At any rate in two of the three entries more than a simple [p] or [w] was involved.
82. There are some apparent exceptions. For example, *qijun > ili-mu *nose*; this is probably due to the fact that the change of *u to i occurred after the l deletion rule.

83. This reconstruction is based on Tsuchida's Proto-Formosan **walay thread* (1976:147).
84. Apparently **ə* unexpectedly became *a* in this word.
85. Here and elsewhere I cite **kabil* as a Proto-Austronesian form. Although the Central Maluku evidence points to **kabil*, to date only **kawil* has been reconstructed. Consequently, **kabil* must be considered a doublet of **kawil* or **kabil* may represent an innovation shared by the Central Maluku languages.
86. See Lach 1965 and Schrieke 1955.
87. As a reflex of **tebuS* one would predict 'tohu'. Although *tehu*, then, is an exception, all four dialects of Kaibobo agree in displaying *tehu*.
88. Geser-Goram is used in this paper not only to justify the innovation whereby **ə* split but also to serve as a corrective in determining which Piru Bay entries truly reflect this innovation. For example, Latu and Kaibobo both reflect *e* as a reflex in **gəlgəl notch*; note Kaibobo *keke* and Latu *ʔeʔe armpit*. (See note 101, regarding the semantic shift.) So we reconstruct PCM ***ŋgəŋgəl*. Geser, however, displays *gegal* (Kilmuri dialect *ŋgəŋgal*). From this we must reconstruct PCM ***ŋgelŋgel*. Presumably the appearance of final *e* in Latu (for the expected *o*) represented an assimilation; unstressed **ə* in Kaibobo regularly became *e*. Similarly Dyen's (1978b:396) inclusion of PAN **ma-qitəm black* in the category of words displaying **e* (using my terms) is also incorrect. While Latu displays *meteʔi black* instead of the predicted 'meto', Geser *metan* indicates that the appearance of *e* in the final position in Latu and other Piru Bay languages was apparently still another case of assimilation to the preceding *e* (from **ma-qitəm*).
89. *Sell*.
90. Both Asilulu and Kaibobo display unexpected initial segments.
91. This form is from a dialect of Kaibobo, Eti. It means *earthworm* > ***tona ure-i*.
92. Collins 1981.
93. *Chicken egg*.
94. *Innards*.
95. At this point I am unable to say what may have been the conditions for such a split. It is not unlikely that these are very early borrowings. At any rate this is still an open question.
96. The only possible exception is the reflex of PCM **-ə*, 'noun-marker' which may have been retained as [-ə] until rather late. This is discussed in section 4 of this chapter.
97. This form is cited by van der Crab for the Larike dialect. He gives the gloss "noord"; however, contemporary speakers of Larike insist that it means *northwest wind which causes dangerous seas*.
98. This form is cited from Asilulu. The Wakasihi reflex was not collected. Note that in Asilulu, Kailolo and Latu the word refers to curly hair worn loose and full-blown in Afro style. That this is related to the PAN meaning is confirmed by the further Asilulu entries: *blossom open (flowers)*; *billow (sails)*. Another Asilulu entry is *tatak spread open (cloth)*, apparently without prenasalisation.

99. That the reflex of PAN *ns merges with the reflex of PAN *nt and *nd distinguishes Proto-Piru Bay from Three Rivers. See the preceding chapter.
100. This PCM entry is probably related to PPH *nisnis *wipe clean* (Charles 1973). The PCM form reflects the addition of -u, a phenomenon common in Oceanic languages. This was discussed to some extent in Blust (1978b:22-27). It is interesting that Maluku languages share this phenomenon with Oceanic languages.
101. Throughout Central Maluku there has been a semantic shift; PAN *gəlgəl has acquired the specialised meaning of *armpit*. This may be a semantic innovation unique to the area.
102. Larike and Wakasihi display wei; Allang ei. This unexpected initial w- should perhaps be compared to POC *waqe *foot*. On the other hand it may be associated with a word-specific innovation from *ʔai hua i (*foot, fruit*-3sg), a word common in the area for 'calf'. At any rate, initial w- is irregular.
103. Note the loss of *D in the reflex of *qapuD *drift* throughout Maluku.
104. Kelang-Asaʔude, the village where Kelang is now spoken, lies along the small coastal strip where all the indigenous villages of Manipa are found. In fact there are Manipa-speaking villages on either side of Kelang-Asaʔude, literally a stone's throw away.
105. In at least one other case an ai sequence has gone unchanged: *Daki > lai-a *body grime*. Presumably loss of *k, like loss of *p, occurred after the vowel change rule. Nonetheless it is interesting that both tai-a and lai-a belong to a similar semantic group ('filth?'). Perhaps because of semantic association as well as phonetic interpretation tai-a did not undergo vowel change.
106. One other apparent exception remains: Boano mahai, Wakasihi muhei *alive*. In addition to the problem of the first vowel, the chief problem is in assigning it to a PCM reconstruction. The appearance of h is problematic, as will be discussed elsewhere.
107. This may be associated with PAN *kəna "Getroffensein" (Dempwolff 1938:78) or perhaps Malay [kənal] *recognise*.
108. Recently Blust (personal communication) pointed out that this entry is currently reconstructed as *(c,s)ai, not *sayi. The Piru Bay material, then, confirms the difference between *-ai and -ay. Furthermore the shift of *a to *e in *-ai may indicate that at an earlier stage an intervocalic -y- may have developed. At any rate, the importance of this word for subgrouping Piru Bay languages is apparent.
109. It might be argued that leale represents a metathesis of **layle. If that were so, then the rule effecting *gayam and *layaR is the same and a later metathesis in *layaR obscured this connection. Alternatively it could be argued that the sequence [l_y] caused the raising of a with subsequent loss of y. Unfortunately no comparable situation appears in the corpus.
110. It is possible that the final vowel in hua-e is another case of Luhu's non-productive noun-marker, -e.
111. This word is from Seit, a western dialect of Kaitetu.
112. This appears only in the compound waliʔaʔa *cousins, same generation relatives (of the same sex)*. The Luhu word for elder brother kaka is assumed to be a loanword for Malay.

113. This includes nuanu *scurvy*, siun *corner*, lai-a *skin dirt*.
114. Before the middle of the seventeenth century the Hoamoal peninsula with its adjacent islands (Boano, Kelang and Manipa) was the center of a bustling trade in spices. This could not be countenanced by the Dutch East Indies trading company (VOC) which claimed an exclusive monopoly to that trade. In 1656 in order to enforce that claim, Admiral Arnold de Vlaming organised the depopulation of that area and the extirpation of the clove trees. Following that measure, periodic punitive expeditions were undertaken. The whole peninsula of Hoamoal was nearly depopulated; a small settlement began in the shadows of the Dutch fort in Luhu. The population of Kelang and its smaller neighbour island, Asa?ude, fled, at least in part, to Manipa. Throughout the area commerce and spice cultivation gradually came to a complete stop. Today Kelang and the peninsula (except Luhu) are chiefly populated by settlers from elsewhere in Maluku or from southeast Sulawesi.

For more details regarding the results of colonial policies of suppression in the seventeenth century, refer to Keuning's 1956 essay (Tr. 1973). Population figures cited in Bleeker (1856:49-51) are also instructive.

	1629	1700's	c. 1850
Manipa	3-4000	800	700
Kelang	1600	500	?
Boano	6000	1000	1500

115. This form is cited from Asilulu.
116. In Asilulu -e is an emphatic marker of nouns. It is used optionally to contrast nouns or emphatically specify them.
117. For example, in Luhu -e is permanently suffixed to all nouns ending in non-high vowels and the consonants n or t.
118. In response to a question about cabling money to Java, Tete Ya?i (estimated age 95) replied: [a?u ta wana?atu] (1sg, NEG, 1sg-send) *I didn't send it*.
119. From the Larike dialect.
120. One of these exceptions tulo *sleep* is discussed below.
121. Alternatively we might argue that *-ə became e in all positions. In sequences *ue and *ie the high vowel assimilated to the following low vowel with subsequent absorption of e.
122. Although Allang is the most populous village in the province (about 10,000), it is difficult to find speakers of the indigenous language. A few of the villagers aged seventy years or older remember a good deal of the language. Younger people speak only fragments in very imperfect fashion. What remains of the language is used as a kind of argot when outsiders are present. On Ambon Island, Allang is the last Christian village which still retains any remnant of its language. See Cooley's work on the culture of Ambonese Christian villages and specifically about Allang in order to understand some of the factors behind the erosion of the language.
123. For example, Wallace (1869) and Ludeking (1868).
124. Wallace regularly transcribed intervocalic r as w. This suggests that r ("w") was [ɣ]. Van der Crab also wrote awopaheh *curse*, the second person singular form of PAN *sumpaq, apparently.

125. In contrast to Wallace, van der Crab lists *waile water* and in Ludeking we find a species of guava, the so-called 'water guava' (*Jambosa* sp.), written as *laine waele*. Of the three wordlists Wallace is generally the most reliable.
126. In Boano *mulaʔi* is the small unripe fruit which falls from trees (especially coconuts) due to wind or disease.
127. *The scoop-like hand net used in fishing in river mouths.*
128. In Central Maluku PAN *SaReZan* became ***əZan*.
129. Even in languages where *l* or *r* is the predicted reflex of **d/D*, forms with *-nene* appear; for example, Asilulu, Kamarian *panene*; Hitu, Kaitetu *pahanene*; Eti *anono*; Kailolo *panono*; Latu *unnoʔo*. There was an early sound change in which ***ɖ > n/_Vn* in the Piru Bay proto-language. The Alune language, by contrast, displays *lene*. This is one of the innovations which separate the Piru Bay languages from the Alune language. See Chapter IV.
130. This comparison is not certain. Dempwolff (1925) lists 'ant'. If the Boano entry is a reflex of this word, there is an unexplained final *-te*. It is possible that there is contamination from another form **t'əg'əm sting*. By itself **səŋət* is a better choice. However, Asilulu and other West Piru Bay languages display *relet wasp*. In these languages no merger of **j* and **n* has taken place; **j > l* and **n > n*. So it is impossible to interpret Asilulu *relet* as a reflex of **səŋət*. The situation is further complicated by the Asilulu entry *rene be itchy* compared to the Buru entry *seŋet gnat*.
131. Unexplained initial *n*.
132. My informants assured me that in ancient times the people of Boano ate millet. There are, in fact, three names for millet-type cereals. Even today the Boano people do not eat the standard foods of West Seram (sago and rice); rather they eat chiefly cassava.
133. This word too may be a borrowing. Tulehu (Ambon) has *kekala isi- thirsty* while Asilulu has *kala-n overcooked, burnt* and *kalamalak asa- weary* (lit. *hot-dry-TR, gill-*). This suggests that the Boano idiom might be an imperfect borrowing from a form similar to Asilulu's *kalamalak*. Also Luhu, Piru and Lisabata have forms similar to Boano's: *kamalaʔe sele*, *kamala sele* and *sene mamala* respectively. So, possible contributing languages for this particular form are not hard to find.
134. *Friend.*
135. Specifically *Alpinia galanga*.
136. The initial *a-* is assumed to derive from PAN **pa-* 'causative'.
137. *Collect for a meeting.*
138. The Boano form means *seaward*. The proposed directional particle, *-nsa*, must have been added after the shift of *l* to *n*.
139. This refers to the pieces of thatch which are affixed to the sides of outrigger hulls to increase temporarily the cargo capacity. Note the vowel discrepancy.
140. *The onset of a malarial attack.*

141. Unexplained loss of initial l.
142. *Drop off (ripe fruit).*
143. *On the other side; a directional.*
144. *Carry on back by suspending from a strap across the forehead.*
145. *Blouse; shirt.*
146. Specifically *Pterocarpus indicus*.
147. *Spray patient with healing saliva.*
148. *Paint designs on one's face (children); draw a line as a carpenter would; doodle; scribble graffiti on walls.*
149. Boano's position as the only good harbour during the northwest monsoon along a one hundred km length of north Seram makes for many opportunities for borrowing. Its island fastness made it an easily defensible stronghold against both the unacculturated peoples of Seram's interior as well as pirates. Local gravestones indicate a very early penetration of Islam. Boano's pre-sixteenth century role in extensive spice trading is well-known.
150. The sequence of sound changes proposed here does not explain unexpected loss of final *R. Loss of final *R in certain words, for example, *saDer *lean* and *dəŋəR *hear*, was an innovation that took place at an early stage in Maluku languages. See Buru prene, ?date and Alune lene, sale *hear* and *lean* respectively.
151. Sometime before the Japanese occupation the people of Kawa spoke an Alune dialect. (Refer to the preface in Sierevelt but note that van Hoëvell (1877:8) reports a dialect called 'Kawa-Noniali'.) Now all but the very oldest generation of indigenous Kawa villagers speak Noniali. Those below twenty years of age speak only the local dialect of Malay. Since 1965 there has been a rapid and massive demographic change; less than 10% of Kawa's current population is indigenous.
152. "I am inclined to believe that the speech-types assigned (by Stresemann) to ProtoAmbonic are more closely interrelated with the speech-types subgrouped under ProtoSeramic than are any with those attributed to ProtoBuru." (Dyen 1978b:391).
153. Taylor (per littera) doubts the possibility of reconstructing *λ because it occurs in only one of the three Tobelo dialects. It remains to be seen, however, what *λ is a reflex of.
154. Deninger (1915) identified seven villages on the north coast of Seram as Galela. This is another N. Halmahera group and the term is often used to mean any N. Halmahera people.
155. In his review of Dahl, Blust (1976:232) suggests that it is necessary to reconstruct doublets *laŋuy/naŋuy to explain the Formosan reflexes. Recently, in a personal communication, he has implied that all occurrences of initial † in Paiwan (n, etc. in other Formosan languages) must be attributed to similar doublet pairs, for example *luka/nuka, or other phonetic conditions. Hence, he rejects the reconstruction of *† in PAN.
 Certainly, as noted here, the number of occurrences of initial *† is very small. Furthermore, there is no theoretical basis for rejecting the reconstruction of doublets in a proto-language. Nonetheless pending a fuller exposition of Blust's analysis of this problem, the correspondences

between Formosan and Central Maluku languages are considered in light of Dahl's and Tsuchida's hypothesis of two proto-phonemes; *l and *ʔ. Perhaps, the decision to adopt the simpler resolution, that is the reconstruction of two proto-sounds, is an incautious imposition of invariability on the proto-language. On the other hand, the principle of reconstructing a proto-sound for every distinct sound correspondence is, at this preliminary stage of analysis, a more useful methodological approach. No theory is absolute or unchangeable. The position taken here is a tentative one but a convincing one. Clearly the issue of the reflexes of *l and *ʔ requires much more research and analysis.

156. As noted in the previous page Blust suggests a doublet form *nuka, based on Cebuano *núka* *sore, infection* and Banggai *nuka yaws*. I might also add a form he cites in another connection (1976:230, fn.1) POC *manuka *wound*.
157. I reconstructed this form based on Proto-Formosan *(bi)ʔiŋaw and Asilulu *nina-l* both meaning *echo*. Blust (personal communication) associates this form with Bikol *ani-niŋál*, suggesting a reconstruction with the prefix *qali-, *qaNi- or *kali-. There are two other possible cognate correspondences: Proto-Rukai-Tsouic *ʔa *and* and Asilulu *na* sentence final *then, also*; PAN *ʔawuŋ *shade, protection* and Asilulu *nau starlore, astrology*.
158. Blust (personal communication) observes that "As Dempwolff pointed out in 1934, *e regularly became TAG /u/ in the neighborhood of a rounded vowel."
159. Tharp and Natividad (1976), however, record áltuŋ and állu with no glottal stop indicated.
160. But see note 158 above.
161. Diffloth (personal communication) suggests reconstructing a form with the infix *-um-. This is a widespread instrumental infix in AN languages and would thus explain the labiality of the reflex in Asilulu. Thus, *ʔəsũ > ʔ-m-əsũ > mesun. This solution has the advantage of being more easily acceptable; however, in a corpus of over 3000 words I recorded no case of infixed *-um- or *-m- in Asilulu. The only infix is -an- which might be relevant here although the loss of a in *-an- would be unexpected.
162. Indeed, Blust (1976:232) pointed out we must either reconstruct doublets or reject Dahl's claim of merger, based on the reflexes of *ʔaŋuŋ in Casiguran Dumagat, Chm. and Dohoi.
163. This reconstruction is based on Proto-Southern Tsouic *caʔi (Tsuchida, per littera). But note POC *daŋi *sing*.
164. Hamp (in press) has already proposed that *ʔ be considered the continuant paired with *ɖ. Hence it is not unlikely that *ʔ was already in some sense retroflex in PAN. The reflex in Asilulu lends some support to that proposal.
165. In addition to Kennedy's reference (1955:55) to the existence of an indigenous language in Laha, see Collins 1980b.
166. Van Hoëvell notes (1877:12) that Boi and Haria on Saparua display nyo and lyo, which are typical of Nusalaut.
167. He also notes that Amet on Nusalaut retains *t as t.
168. Note that in Figure 5, Elpaputi Bay is listed as a descendant of 'Hatoehahasch'. There is some uncertainty because van Hoëvell (1877:8) writes "de twee tongvallen der Elpapoeti Baai". This could mean Amahai, spoken on the east side of the bay, and Paulohi, spoken on the west side.

- If so, he may mean to imply a close relationship between the two. On the other hand, he may mean Paulohi and Samsuru, the two villages which spoke Paulohi at the time of his writing. (They were completely destroyed by the earthquake and tidal wave of 1898.)
169. In particular, Figures 5 to 14.
 170. Refer to the notes of Figure 29 as well as the map. All major subgroups of Proto-East Piru Bay are represented here. The data from Nusalaut are taken from van Hoëvell (1877).
 171. PAN **tunu* *bake, roast* is prefixed with the stative marker **ma-*. In these EPB languages this became **mtunu* *roasting (hot)*.
 172. A very late sound change shifted intervocalic *k* (from ***nd*) to *s* before high vowels (Stresemann 1927:42).
 173. This entry may display **qamasi* without prenasalisation.
 174. Further examples are found in Collins 1980b.
 175. In two dialects of Geser (Kilmuri and Kiandarar) I have recorded words such as PAN **gəlgəl* > *ngəngəl* *ampit*. This suggests that in Proto-Geser **g* > ***gg*. If Proto-Geser is closely related to PECM then we must reconstruct ***gg* as the reflex of PAN **g* as well as **gg* and **gk*. An alternative solution is to reconstruct **g* as the reflex of PAN **g*, **gg* and **gk* and consider the *gg* clusters in Geser dialects as later developments.
 176. My informants in Eti, A. Risaputi and P. Solesala, informed me that on special ritual occasions, especially those involving other villages, only Alune may be spoken. One hundred years ago van Ekris noted that an Alune-speaking village, Sole, was adjacent to Eti. This has since been absorbed by Eti.
 177. Schaefer (1963:101-02) notes the steady appearance of certain tropical animals in the courts of ancient China. Included in lists of tribute brought by early trade missions (644 and 647) are rose-crested cockatoos. This species of cockatoo is found only in Seram and Arbon-Uliase.
 178. Another factor which may be involved could be the replacement of animal names with puns or figures of speech. This kind of taboo avoidance would be likely to influence the entries for 'cockatoo' because this is a sacred bird and clan totem in western Seram.
 179. Dempwolff (1938:81) cites "***kubaj* Gemuse . . . IN TB hubo' innere Blattrieb; Ml *kubai* 'Name eines essbaren Krantes". In Central Maluku **kubay* refers to a culinary preparation of sago flour baked in tender leaf wrappings.
 180. Dempwolff cites "***ka|uŋ* *Sack*".
 181. Schrieke (1955(I):24) notes a large Javanese population recorded in Hitu in the seventeenth century.
 182. Another conditioning factor is possible: late retention of **S*. There has been apparent retention of **S* in some descendants of Nunusaku (Collins 1981), but no other word of Sepa-Teluti displays such a possible retention. For the time being, we assume that Sepa-Teluti did not retain a reflex of **S*.
 183. Namely *Pterocarpus indicus*.

184. Sepa's position to far west affords greater opportunity for associating with villages on Ambon and Uliase. Borrowing from the west into Sepa is quite likely.
185. Or rather that *p > ʔ/_# and that a constraint on consonant clusters containing /ʔ/ as the initial element resulted in the loss of /ʔ/, i.e. *qunap > n-unaʔ > n-unaʔt > nunat.
186. This should be compared to PAN *paqit *bitter*.
187. In Paulohi in at least three entries there are irregular reflexes of *p. They are *pəpu > henu *tortoise*, *pusəj > use *navel* and *pukət > uet *net*. These so closely parallel the Saparua forms that they are considered loanwords possibly from the populous Saparua-speaking villages (Hualoi, Tumalehu and Latu) to the south. The twin villages of Paulohi and Samsuru were destroyed by an earthquake and tidal wave in 1898; this reduced the population of about 1550 to only 150 (Stresemann 1918). Today only a handful of elderly speakers remember the language.
188. Data from Mamala and Liang are found in Wallace (1869).
189. The unexpected occurrence of h in hata/hane indicates the possibility that they may reflect a reduplicated formation (E. Hamp, personal communication). Not only are cases of reduplication within the numeral series widespread in AN languages, but in Hitu we note nena *six* apparently from **nəmnəm (see Dyen 1978b). For four in Hitu, then, *ɸVɸata > ɸɸata > hata.
190. Stresemann (1927:53) claims that *p > ʔ in West Littoral. He cites Eti "niʔa" from *nipaw *snake*, Kaibobo "aʔur" from *kapuR *lime* and Kaibobo "uʔut" from a hypothetical 'Sub-Ambon' **uput *coconut fibre*. During the course of my repeated data collection trips to these villages I paid particular attention to these questions but could not find substantiation of Stresemann's transcription. In Eti I recorded nia and in Kaibobo aur; in neither case is there a glottal stop. Kaibobo does display uʔut but this may be interpreted as a case of hiatus between two like vowels.
191. He also includes Loun in this list. In Chapter IV it is argued that Loun is closely related to Alune.
192. The entries point to a PCM form **puqən.
193. Chlenov and Sirk (1973:76) hesitate to suggest this analysis because they confuse a dialectal variant of *aku, namely hau 'lsg', with these forms. Some Saparua dialects, Iha-Kulur (Seram), Kulur and reportedly Sirisori display *aku > hau 'lsg'. But Latu displays *aku > au 'lsg'. On other grounds Iha-Kulur and Kulur can be grouped together as members of a dialect of Saparua. For example, they display l as the reflex of *l whereas Latu displays r as the reflex of *l. The occurrence of initial h in hau 'lsg' is an innovation in one dialect of Saparua, possibly influenced by the h- of hau *fire* and haulo *lime*. Note that other languages such as Kailolo and Ruta display *aku > au 'lsg'.
194. I am grateful to W.A.L. Stokhof for giving me a copy of this old wordlist taken from the Holle collection in the archives of Museum Pusat, Jakarta.
195. A revised version of a portion of this section was presented at the Third International Conference on Austronesian Linguistics, Denpasar, Indonesia, January, 1981. See Collins 1982.

196. In the foreword to his book (1927), Stresemann acknowledges Dempwolff's personal assistance, particularly in comparing 'Ur-Abmon' to Proto-Austronesian. Stresemann's book was published in Hamburg where Dempwolff lectured and researched. In fact, Dempwolff's *Vergleichende Lautlehre des Austronesischen Wortschatzes* was published in the same series as Stresemann's book.
197. Both Rumakai and Kamarian are on the edge of extinction. While there are about 3500 people in Kamarian only a few elders retain even imperfect knowledge of the language. The situation is similar in Rumakai (population 1450).
198. Presumably the Piru Bay forms reflect a non-productive suffix, PAN *-an; **kəban meant *thwart-seat*.
199. In Ruta (Amahai) this prothetic h- was lost at a late date. Stresemann recorded Amahai hoha a *kind of pandanus* while I recorded Tehoru yoha *pandanus with long leaf*. This suggests an earlier form *si-oba.
200. Proto-Eastern Oceanic has been reconstructed with *waqe *leg* (Pawley 1969).
201. This probably is derived from PAN *kaSu '2sg' with the addition of the demonstrative **le.
202. In contemporary Asilulu the meaning is restricted; it refers only to wounds suffered as a result of circumcision.
203. For example, Luhu, as noted in the preceding chapter.
204. Perhaps this should be compared to the Toraja use of si-. When si- is preposed to a verb it marks reciprocity: sitiro *see each other*; sibobo? *fight each other*. When prefixed to numerals it means *each*; for example da?dua *two* beside sida?dua *two each*.
205. In Javanese and Old Javanese (Kawi) si appears as an "article used for persons" (Zurbuchen 1976:124).
206. In my fieldnotes of Popalia, i- occurs unexpectedly in some pronouns. Zaenuddin Untung (1979) recorded a similar "excrement" y- in Bonerate, a southeast Sulawesi language spoken near Salayar. Note: Popalia iaku '1sg'; iko?o '2sg'; and Bonerate yaku '1sg'; yiko?o '2sg'; yikita '1pl(in)'; yikami '1pl(ex)'.
207. In Sepa and Teluti no noun with initial a- occurs. Either y- or w- which corresponds to zero in other languages of PB appears. We conclude, then, that a noun-marker occurred before all nouns but was retained only before a- (and possible *ə-). It is difficult to determine whether only certain semantic classes were involved. A glance at the wordlists presented here suggests that pronouns, body parts, flora and fauna, important tools and natural substances may be involved as a sort of respect/avoidance class.
208. Paulohi points to **pasu but Sepa-Teluti suggests **asu. The Paulohi form is probably from a compound noun **upan *face* and **asu *cheek*. However, Blust (personal communication) notes several forms in other Austronesian languages which suggest *pasu. In which case, this entry may be removed from the comparison.
209. This is based on Malay aru *evil spirit assuming human shape* and haru *plaguing . . . especially of spirit* (Wilkinson). In Central Maluku languages walu usually refers to the spirit of the recent dead, especially one's relatives.

210. Some clans revere the shark as an ancestor. They are forbidden to eat its flesh. The shark is, of course, an agent of retribution. Numerous stories about the sea tortoise as an agent of rescue at sea also occur. In a shipwreck story which I recorded (Serua, southeast Malulu), the sea tortoise seems to have represented a dead parent. This giant tortoise surfaced just as the drowned mother sank. The animal then carried the dead woman's son and guided her husband to safety. In connection with the role of sharks and tortoises it is interesting to note that *walu* is usually the spirit of a recently deceased relative or an acknowledged ancestor. They are frightening but not always malicious.
211. Again through the auspices of W.A.L. Stokhof I saw a partial copy of the Niala wordlist which Dyen worked with. Although it was collected in West Seram, it is clearly not a western Seram language. Notes on the wordlist indicate that it was collected in Riring, the military garrison and prison of West Seram. This may indicate that the informant was associated with the garrison as a mercenary, a labourer or a prisoner; therefore he may not have been an inhabitant of western Seram. See Collins 1982.
212. Blust's recent observation (1982), already noted in Chapter II, that non-Formosan languages display loss of preconsonantal and final *S and the merger of resultant *ə to *a requires further consideration. While the evidence which Dahl proposed is not convincing, Blust's observation is.
213. There have been welcome exceptions to this generalisation, in particular, Pawley (1973), Blust (1974), Bradshaw (1978) and Geraghty (1978).
214. The occurrence of a similar grammatical marker in Tsouic languages (Tsuchida, personal communication) suggest a very ancient feature in Austronesian grammar.
215. This has been discussed briefly in Collins 1981.
216. I am referring to the interesting discussion in Blust 1978:24-6.
217. The spread of Greek-speaking people in the Aegean, for example, is epitomised in their word for sea, *πovtos*, from the P-I-E word for road! (See Hamp 1957).
218. Blust (1981) first noted some discrepancies in Stresemann's analysis of the 'Ur-Ambon' sound system. See also Collins 1981.
219. I collected some material in March 1979 but the retention of *q in Watubela is demonstrated by the data found in the texts published by Riedel (1886).
220. Note in particular the treatment of *p before *u as discussed in Chapter VI.
221. In these villages a descendant of Three Rivers or Proto-Piru Bay is spoken. After each village name, a letter indicates the island upon which it is located; so, (S) is Seram, (A) Ambon, (H) Haruku, (Sp) Saparua, (M) Manipa and (B) Boano.
222. This language formerly spoken on the Banda Islands is now spoken only in these two villages which were founded by fugitives on Kei Besar.
223. The data collected are from the dialects spoken along and near the coast of Namrole Bay, southern Buru (chiefly Masnana village).
224. Dubél refers to a language spoken in several dialects in east central Aru. The data referred to here were collected from speakers in Karawai, Warloy and Kobaseltimur.

225. This is a dialect of Tarangan, S. Aru.
226. Popalia is a language of S.E. Sulawesi. The data referred to in the text were collected from second generation migrants who live on Nusa Lain, off Asilulu's coast (N.W. Ambon).
227. Because of recent volcanic activity, Serua speakers no longer live on Serua. They have resettled in Letwaru and Makariki, C. Seram (where the data referred to here were collected) and elsewhere.

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